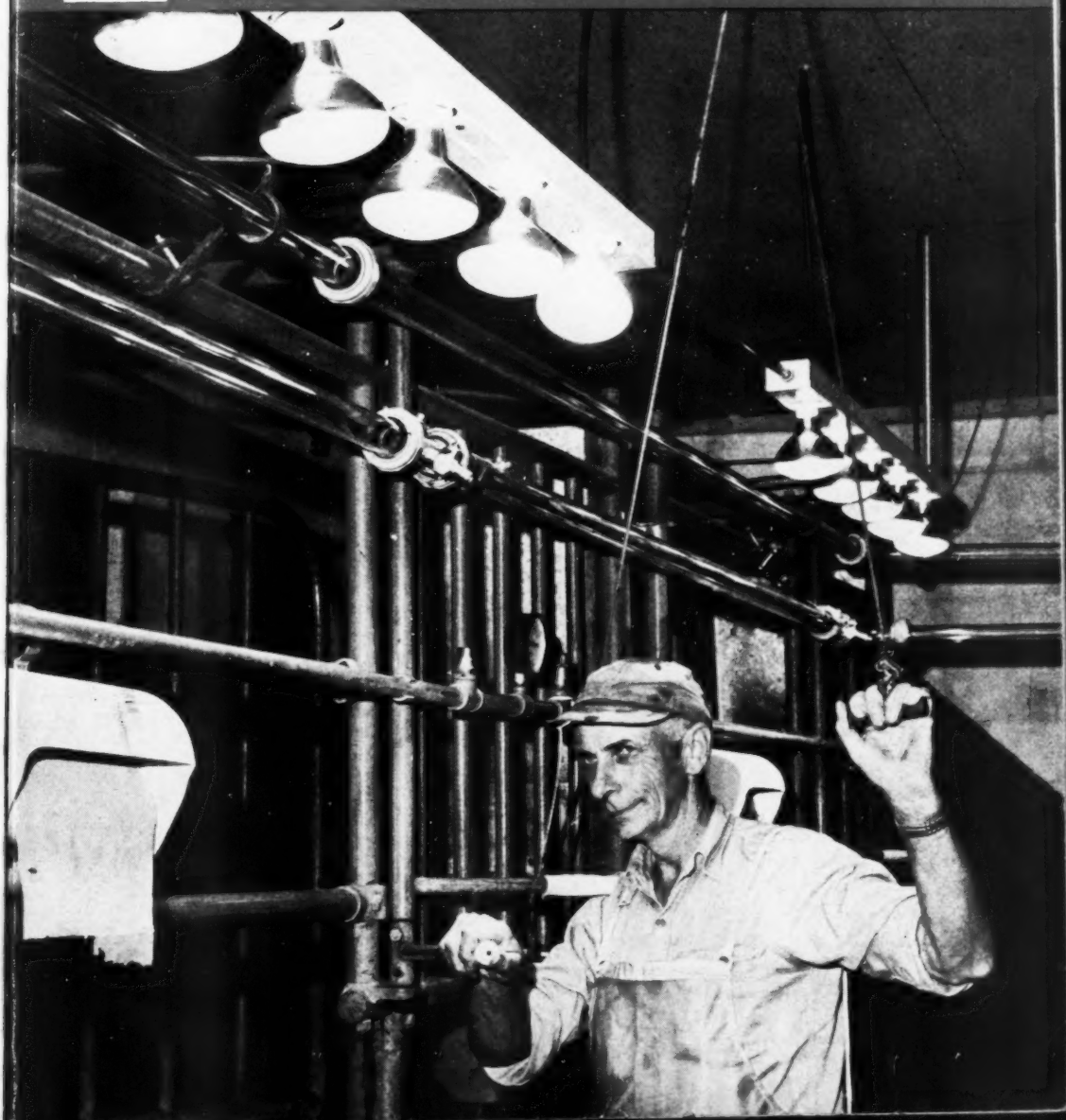
NOVEMBER 1961

EOF

electricity on the farm

SOUTHEAST EDITION

How to get real milking parlor comfort in winter. See page 18.



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SOUTHEAST EDITION

electricity on the farm

VOL. 34, NO. 9 NOVEMBER 1961

A Reuben H. Donnelley Publication

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The Growth of an Idea

The golden anniversary of the work of county agents is being observed this November at Binghamton, N.Y. It was there on March 1, 1911 that Broome County, with the guidance of the first Farm Bureau, hired John H. Barron as county agent. Although some southern states had been employing county advisors before this time, Broome County is given credit for the title, "County Agent," suggested by Prof. W. J. Spillman, who was at that time working in the Secretary of Agriculture's office in Washington. Barron's job description directed that he should "conduct demonstrations with farmers, do education work through available media, advise farmers individually and otherwise as to the best methods, crops, cropping systems, stock, labor, tools and other equipment."

The county agent program has come a long way since this humble beginning in 1911. Passage of the Smith-Lever Act in 1914 put the program on a national basis. This act also established the 4-H Club programs and later included the Homemakers Club program as part of the county agent's service to rural people.

Agriculture has made tremendous strides during this era. I've heard authoritative speakers say: "Agriculture has advanced further in the past 50 years than in all previous history." In many ways this is true. Think of the tremendous technological developments in mechanization, plant and animal breeding, fertilizers, insecticides, marketing techniques, just to name a few.

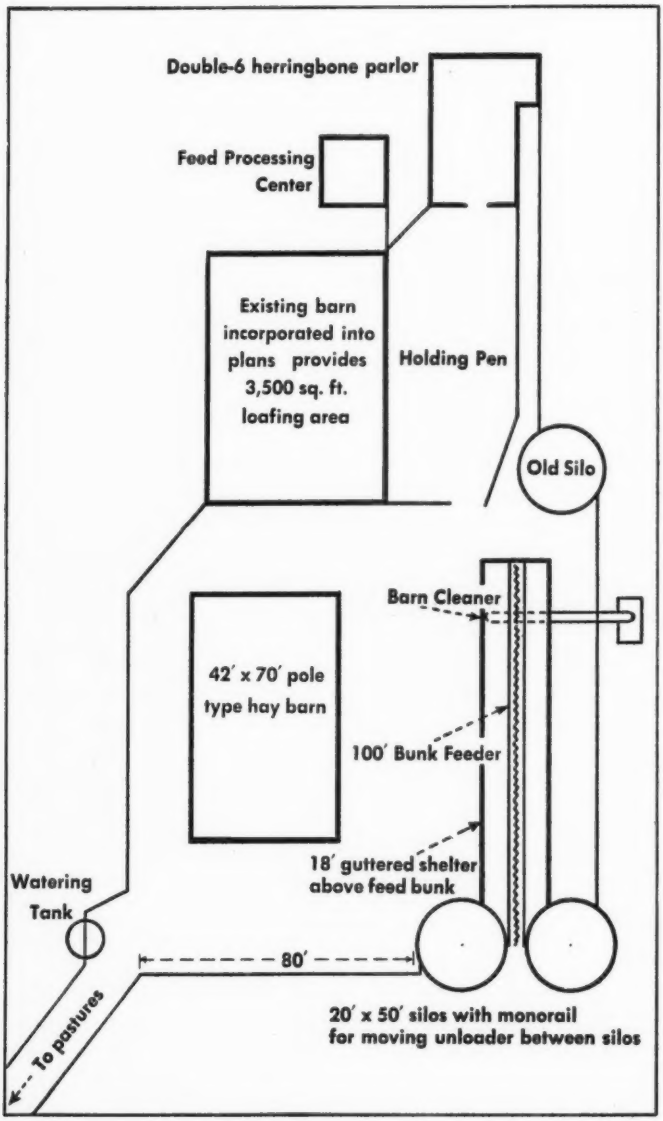
All these advances have been made possible by teamwork. The scientists, researchers and manufacturers produce the developments. Then the technology is carried to the user—the farmer. Here's where county agents have played a tremendous role—bringing the usable technology to the farmer.

On this golden anniversary of their program we want to salute the professional county farm and home agents, who continue to devote their careers to helping farm people make better lives and better livings.

Hugh Hansen

A father-son team planned and built this

MODERN DAIRYING PLANT


Double-6 herringbone parlor
Feed Processing Center
Existing barn incorporated into plans provides 3,500 sq. ft. loafing area
Holding Pen
Old Silo
Barn Cleaner
42′ x 70′ pole type hay barn
100′ Bunk Feeder
18′ guttered shelter above feed bunk
Watering Tank
80′
To pastures
20′ x 50′ silos with monorail for moving unloader between silos

By ALBERT MORRIS

This new dairying plant was built by R. A. Crowell and his son, Dick, after they decided to merge two herds into a single unit of 120 cows. By bringing the herds together, they gained the obvious advantage of being able to modernize at a smaller investment per cow.

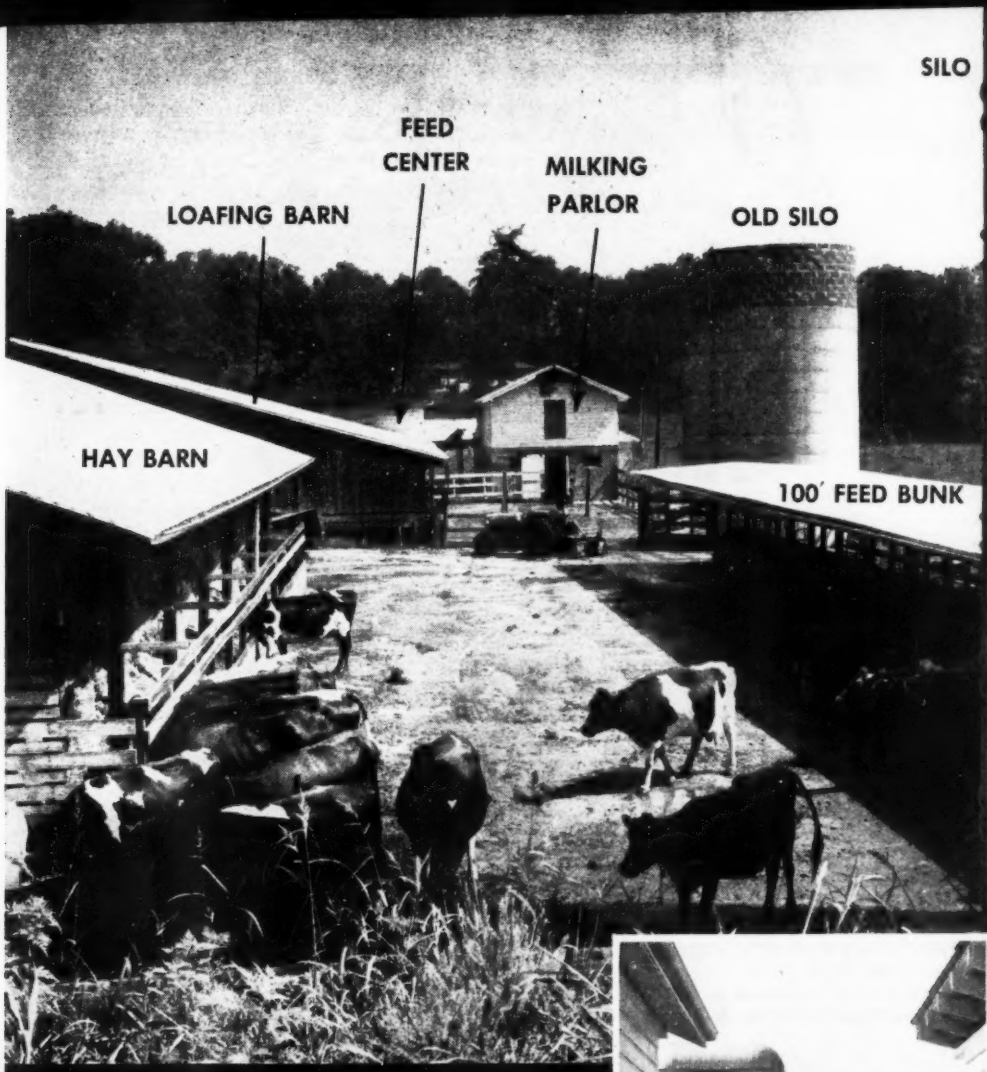
The move into the new plant came about a year ago. Construction followed considerable study and planning by Dick, a graduate of North Carolina State College. He traveled extensively to see other dairy farms and gather ideas that were incorporated into his plans.

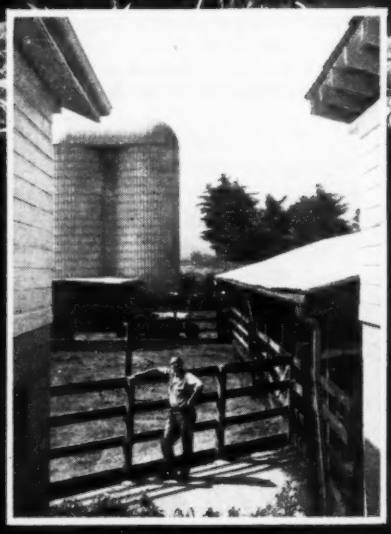
Just a few miles from Asheville, the new plant is a loose-housing system that was tailored to use an existing building for a loafing barn. It has a double-6 herringbone parlor that allows the milking to be done by two men, where four were required before the merger. There is a 40 x 72-ft. pole-type barn that stores 4500 bales of hay and has mangers all around for easy feeding.

Silage Feeding Doubled

Added emphasis is on silage in the feeding program. Two upright silos have capacity for 800 tons of silage. Already Dick wishes that this capacity had been made 50% greater by using

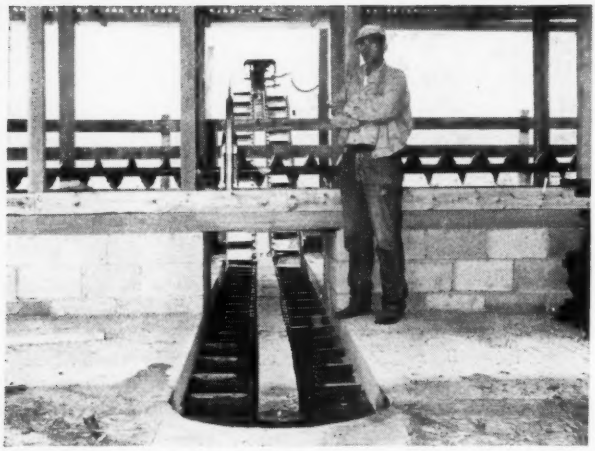
(*Continued on page* 6)





ABOVE Paved feedlot gets cows out of mud, is credited with improving herd health. Hay barn has mangers all around for easy feeding.

RIGHT Crowell's wish: that he had 50% more silage capacity. Two capped silos hold 800 tons. To be added between buildings in foreground is tube conveyor to carry feed from processing center to hoppers above milking parlor (left).



Conventional gutter cleaner is used to mechanize cleaning of the feedlot. Cleaner operates in 14-inch pit, extends distance of 28 feet before elevation begins.

New plant sharply reduced Crowells' labor requirements. Blade on tractor moves manure into cleaner in all kinds of weather and cleaner elevates waste into a manure spreader outside the feedlot. Routine cleanings twice weekly usually require one hour, longer in wet weather.

larger silos. As it is, he contemplates adding another identical unit so that he will be able to use the same unloader in all three. Ensilage fed per cow has doubled during the last year.

At the outset, he thought that an old 100-ton silo might be used if additional capacity was needed. The hundred-foot feed bunk was located to receive silage from it, and the screw conveyor in the bunk is installed so that it can be reversed to move silage in either direction. But Dick has decided that for economic reasons it is not practical to use the small silo which would have to be unloaded by hand.

The silage conveyor in the bunk is driven by a 3 hp repulsion-start-induction motor. This type of motor develops more starting torque than other single-phase induction motors and is recommended for large or hard-to-start loads. A 5 hp motor drives the unloader. Over the feed bunk is an 18-foot shelter with gutters.

The entire feedlot is paved with a 4-inch thickness of concrete. This hard bottom, as Dick calls it, is credited with improving the herd health by curtailing sharply the number of cases of foot rot. "We haven't had a bad case since we moved," he declares.

(*Continued from page* 4)

The paved lot is cleaned mechanically in all kinds of weather. The system for this uses a conventional gutter cleaner that is installed perpendicular to and extends beneath the feed bunk. There is space on either side of the bunk to push or pull waste into the cleaner with the blade on a tractor. Driven by a 2 hp motor, the gutter cleaner removes waste from the lot into a manure spreader. Routine is to clean twice a week. It takes about an hour when the feedlot is dry, longer in wet weather.

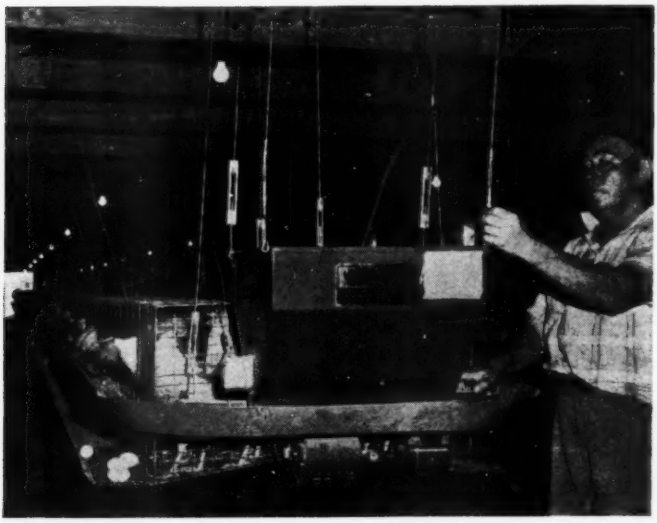
Happy with Herringbone Parlor

Of the herringbone parlor, which replaced stanchion milking parlors, Dick says: "We like it extremely well. Our cows have been easier to handle. Two men finish a milking in 2½ hours. If there is a drawback, it would be that we don't observe the cows as closely."

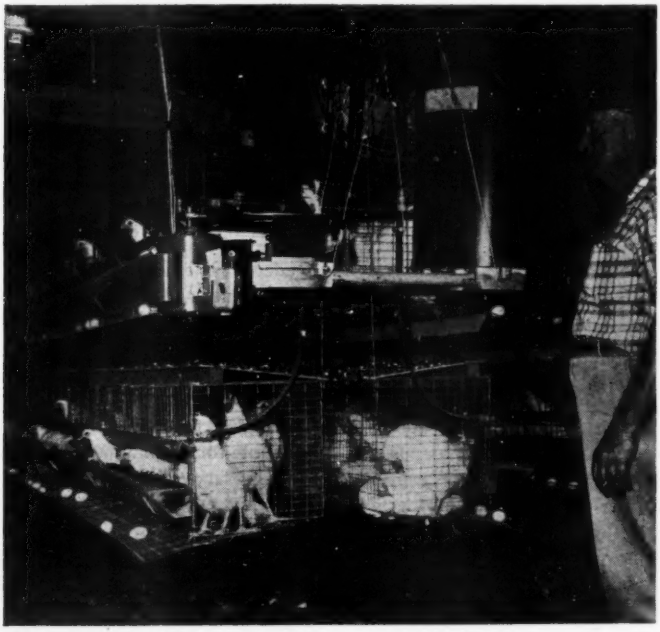
Yet to be completed is a system for conveying feeds from the processing center that already is in use to hoppers above the milking parlor. The buildings are 10 feet apart and plans call for a 6-inch tube-type auger to move the feed.

Along with the other advantages the new plant has brought them, the Crowells believe they are producing a higher quality product. They are certain their work is easier, they require far less hired labor, and their cows are getting the best treatment ever. □□

Feeding Caged Layers Mechanically



Reciprocating-action type of feeder used by Fitzgerald serves 500 cages and 1000 birds. Initial cost was approximately $150 for the main unit and roughly 21¢ per foot of feeder strap.



Coil feeder used by J. C. Matthews has ½ hp continuous duty motor, gives even distribution of fresh feed.

Among those poultrymen who are turning to mechanical feeders for caged layers is T. M. Fitzgerald of Glade Spring, Virginia. He is using four of the feeders, each one serving 500 cages and 1000 birds.

"I think you get more feed in a chicken with this than by hand feeding," declares Fitzgerald. "And if you don't get feed into a hen, she won't lay."

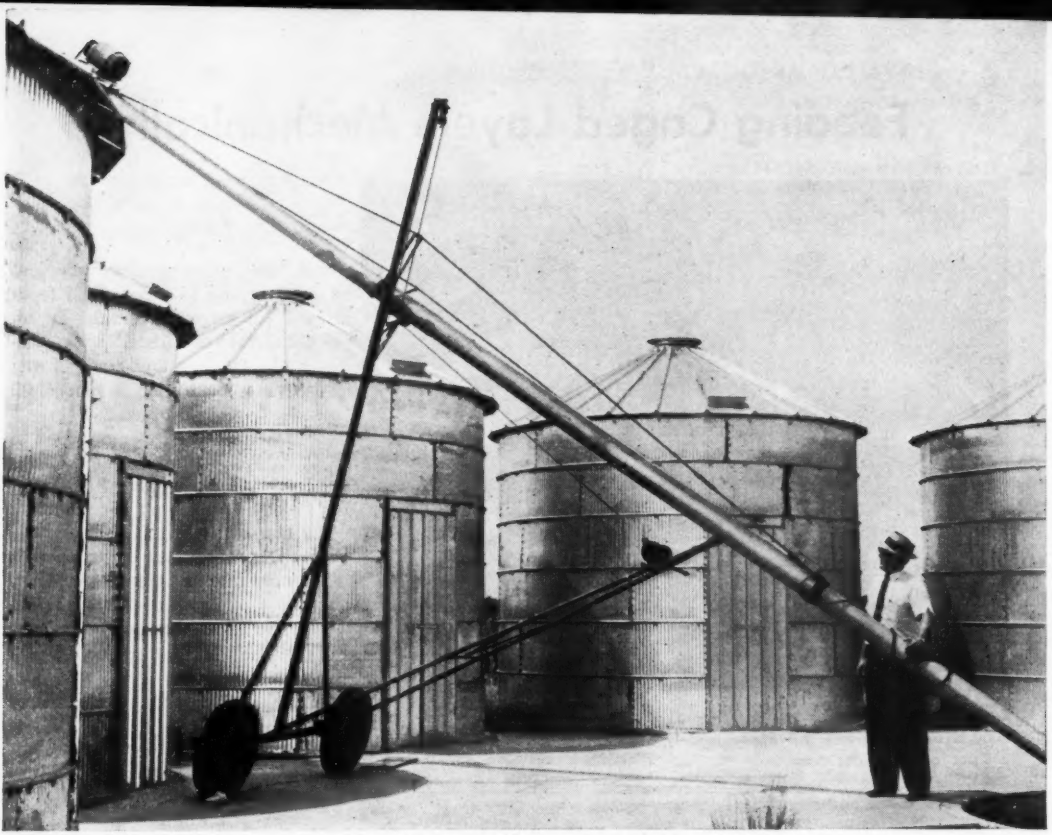
The feeders are set to operate for 30-minute intervals at 4, 10 and 4 o'clock. In addition, Fitzgerald says each time he collects eggs he turns them on to stir and redistribute the feed. This stirring, he believes, increases feed consumption.

His feeders are a reciprocating-action type with a continuous trough around the row of cages. Continuous-duty ¼ hp motors drive the feeders.

To completely mechanize the feeding system and convert for receiving feed in bulk, he is installing an outside bin with a horizontal auger extending from it into the laying house. The auger has drops above each of the feeder hoppers.

One of the first Virginians to try mechanical feeders for caged layers was J. C. Matthews, of Portsmouth. He has 45,000 hens. The big advantage he sees in mechanical feeders, in addition to the time or labor saved, is that the feed is kept fresh and evenly distributed. Frequent stirring, he suggests, attracts hens to the trough.

Where birds are hand fed, he says it is not uncommon to find four or five foot stretches of trough bare of feed. In other spots, birds will rake the feed into piles. Feeders correct this automatically and regularly. □□



2 hp auger at work moving wheat from central pit into one of the metal storage bins.

How to give the profit on each bushel of wheat

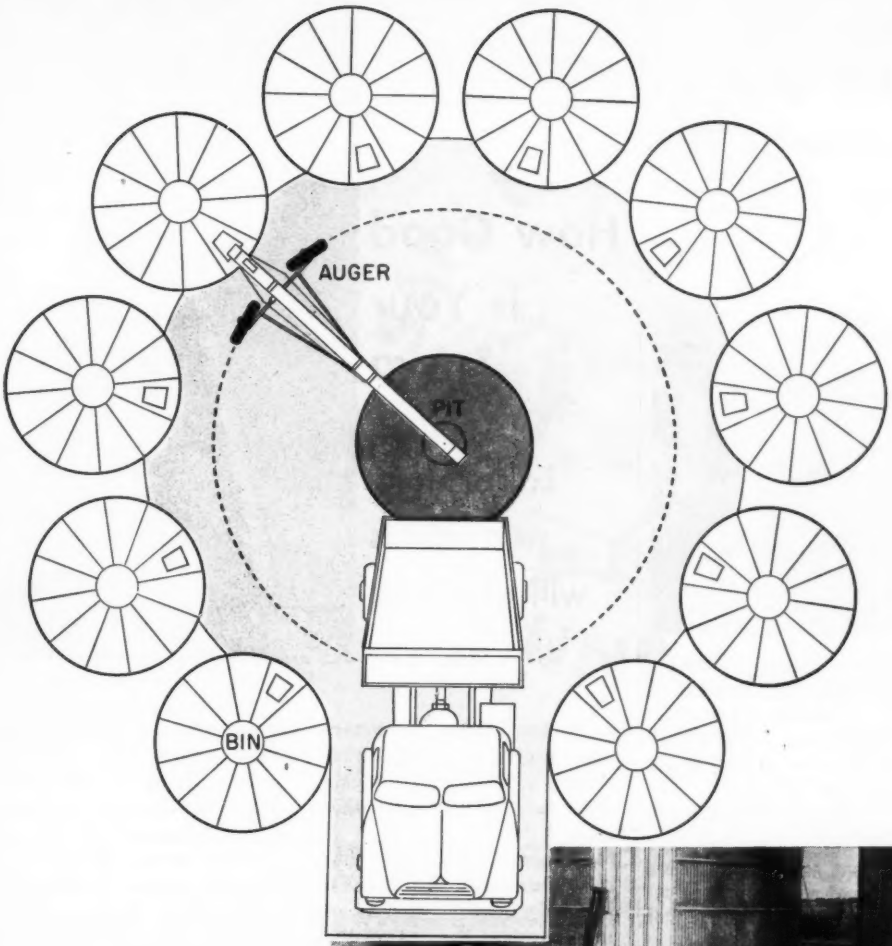
A NICKEL'S HEAD START

For Harry Martin, handling the 30,000-bushel-plus crop from his wheat acreage is no problem now. Even if it's cut a little wet, he's ready for it, whether there's a labor shortage or not. His new 10-bin storage center, close to his wheat land near Wichita Falls, Texas, can handle it.

Martin's 33,000-bushel storage capacity represents a minimum investment. The only "luxury" is the paved area inside the circle formed by the bins, and two portable augers. And they make all the difference between the labor cost for loading, unloading and turning the grain being prohibitive and being as practical as it is.

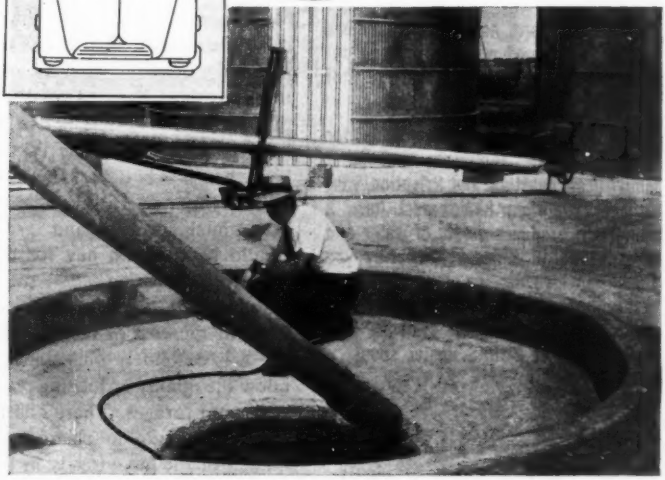
The 10 metal bins form a nearly-closed circle, some 50 ft. in diameter, with only enough opening on one side to permit entrance and exit for a grain truck. The truck dumps grain into the 10-ft. circular pit in the center of the paved area. From there, a 42-ft. auger—plugged into a weatherproof, heavy-duty outlet in the side of the pit—elevates it to the bin where it's needed. The auger is welded onto a special frame with rubber-tired wheels, so that it's a one-hand job to push it from bin to bin.

Martin usually stores the grain under government loan; he's responsible for its condition. When it's necessary to "turn" the grain into another bin, to aerate and dry it, another auger does that job, too. This 30-ft. auger is also welded onto a special metal frame, with wheels so it can be rolled from bin to bin over the concrete floor. Rolled into po-



sition against an opened bin door (with lift gate inside to feed out grain slowly) it moves the wheat into the center pit. From there, the vertical auger lifts it into the top of another of the cylindrical bins.

Martin can haul wheat from the fields and get it in the bins for 5c a bushel. It would cost him about 10c a bushel to haul it to the nearest commercial storage elevator or warehouse. The nickel a bushel is a good start toward his "profit" for storing his own grain. □ □



Portable auger is plugged into the special weatherproof outlet, designed to minimize nuisance of cord getting in the way of loading and unloading. Note auger in background used to move grain from bins to pit.

"I Only Put BURKS Water Systems In The Homes I Build"

Reports Art Wilcox who builds farm and suburban homes in Macon and Piatt Counties, Illinois.

"I've tried other pumps occasionally in the past. But I have yet to find one which matches the performance and dependability of a BURKS pump. Consequently, I only put BURKS water systems in the homes I build now," Wilcox adds. "And I have yet to replace a BURKS pump in any home I've built!"

In his own farm home, Art Wilcox has two BURKS pumps which have been operating for over 20 years and are still giving him top performance.

Due to the increased demands for water for home appliances and other family uses, livestock and irrigation, your farm or suburban home must have a pump that produces plenty of water and pressure at all times. That's why you should investigate the long-life, high-performance features of quality-built BURKS pumps and water systems. Contact your local BURKS dealer soon!

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Laboratory tests are based on samples taken from several bales. A coring tool mounted on an electric drill extracts proper sample core from each bale.

How Good is Your HAY?

Laboratory analysis will give you the answer

Laboratory tests are proving that selecting hay with the eye alone is about as risky as picking cows, beef bulls or hogs without testing.

Farmers in 37 states either now have or soon will have available laboratory testing programs to determine chemical analyses of their hay. These tests can be used to determine value of the hay when it is bought. The tests are also very useful in deciding how much protein and grain should be fed with hay for the most efficient ration.

Since feed accounts for 65 to 75% of the cost of feeding cattle, it is extremely important to know the quality or feeding power of your forages. There's nothing you can do to change the quality of the hay already in the mow or the quality of your silage. But if it isn't up to par, now is a good time to take a close look at your feeding program.

Pennsylvania is one of the states that has taken the lead in forage testing services. "The eyeball and nostril test for forage has been proved inadequate in our studies," declares Richard Adams, Penn. State Extension Dairyman. He was largely responsible for the development of the Penn State forage testing service which provides forage analysis plus recommendations on feeding.

Dairyman Harold Yaple of Luzerne County, Pennsylvania says forage testing "takes the guess-work out of a feeding program." He further comments that testing "showed my roughages contained enough protein that I could cut down on protein supplement in the grain mix."

Returns per cow climbed $44 a year for one group of Penn-

sylvania dairy farmers using the testing program. Grain costs per cow have dropped as much as $6.50. Milk production in one herd rose 3300 lbs. per cow in a year after the owner began roughage testing.

In Wisconsin, where about 10 million tons of hay are harvested annually, hundreds of hay samples were tested recently. Only 5% were of excellent quality. 25% were good, the remaining 70% fair or poor.

Forage testing is a lot like soil testing. You send a sample to the laboratory, then get recommendations as to its feeding value. After samples have been taken, the self-addressed cartons are mailed to the laboratory, along with information about the sample.

The average cost of forage testing runs from $15 to $25 per year. Some states make no charge at all, others ask from $1 to $6 depending on how much information is provided. Private labs often make tests in states that have no program.

A complete copy of the analysis is sent to the farmer and to his county agent. It lists the crude protein, estimated digestible protein, crude fiber, and estimated total digestible nutrients (TDN) of the sample on both a dry-matter and as-fed basis. Moisture content and quality grade are designated.

Farmers who request it will receive suggested feeding programs based on their forage quality at no extra cost.

Ask your county agent about hay testing in your area. A small investment in testing might save you hundreds of dollars in feed. And if you buy hay, testing is a must. Feeding value can vary so much it is too much of a gamble to depend on sight and smell alone. □□

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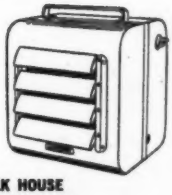
SAFE ELECTRIC HEAT • ALL AROUND THE FARM •

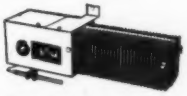
Means More COMFORT
CONVENIENCE, EFFICIENCY, PROFIT

Today, electric heat does dozens of jobs all around the farm from protecting water pipes from freezing to providing comfortable working conditions in various farm buildings as well as in exposed areas. Take the Milk House Heater, for example, its fan-circulated heat preserves the structure by keeping it dry, prevents ice forming on the floor, and aids ventilation . . . all plus benefits in addition to its primary use of ensuring running water and comfort while washing milk utensils. By employing the advantages of electric heat, many farm operators find they can keep production up, increase efficiency, and thus, add to their overall profits, **all around the farm.**

Also more and more rural families are discovering the special kind of controlled warmth electricity provides throughout the home. Temperature of each room is controlled by separate thermostat. No maintenance problems. It's clean, flameless, safe and efficient.



MILK HOUSE
STORAGE BINS
BROODING PENS



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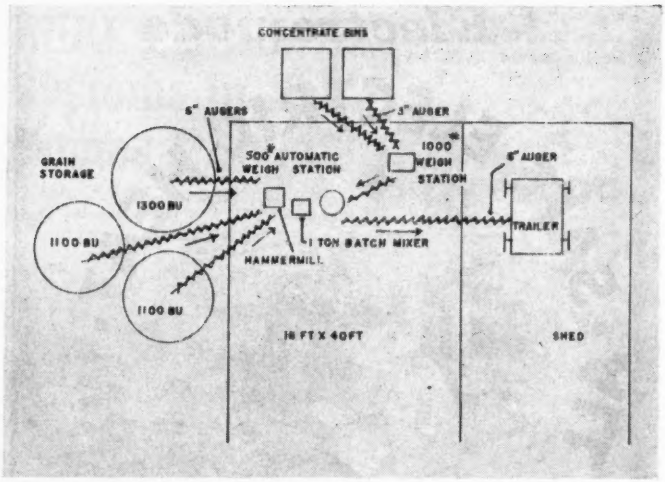
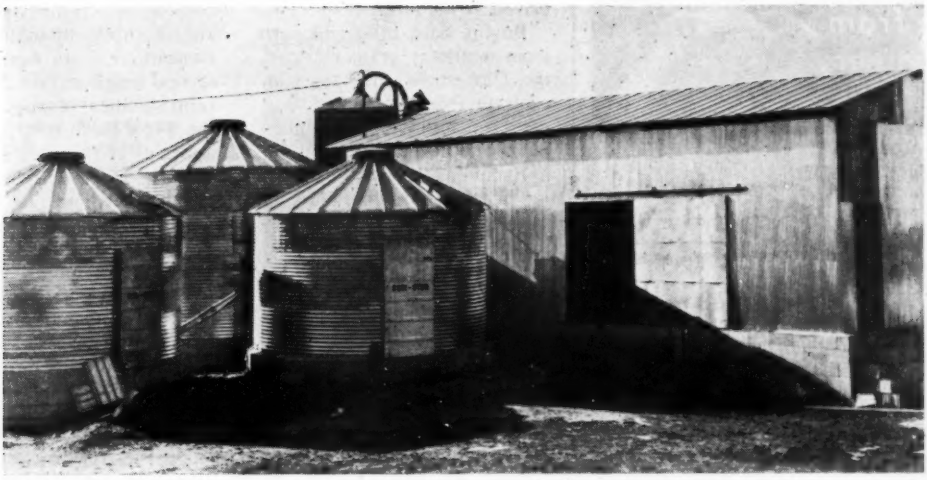


ABOVE—Layout and flow plan of feed processing system on Dickerson and Sons Farm, Anderson, South Carolina. **BELOW**—Stored feed and concentrates are augered to this area, processed, and delivered to self-unloading wagon at right.

In less than a year, the dollars saved will pay for this **POULTRY FARM FEED PROCESSING SYSTEM**

By AL MORRIS



Storage units in Dickersons' feed processing system are compactly arranged to permit complete mechanization of the operation. 16 x 40-foot building houses office in addition to feed processing equipment.

A system for on-farm processing of their poultry feeds is turning out to be a good investment for Z. W. Dickerson and Sons of Anderson, S. C. They keep 30,000 layers. Including replacement flocks, they sometimes feed as many as 45,000 birds.

For a typical month this year they figured their saving on feed came to $992.05. This was *after* charges had been made for operating expense and for depreciation of equipment and buildings. The comparison used to measure their saving was the prevailing price for the same feeds delivered in bulk to their farm.

$7300 Investment in System

The system which makes possible this saving cost them about $7300. It begins with grain and concentrate storage bins, and it ends with a 3-ton self-unloading and elevating trailer that puts feed right into bulk bins at each poultry house. The trailer is tractor-pulled,

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Keep water flowing all winter long in pipes and V-shaped troughs. Quality-built Easy-Heat —in 3' to 100' lengths— comes with or without thermostat. Complete kit has waterproof wrap plus friction tape. Insist on Easy-Heat at your farm supply store.
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Dept. EF, New Carlisle, Ind.

NOW you can get
3 litters a year
from every sow..

with the
NORWOOD ELECTRIC
Pigsaver

Put your baby pigs on the Pigsaver right after farrowing. They'll get warm sow's milk replacer day and night. Thermostat control keeps milk at right temperature. Milk kettle feeds up to 8 pigs.

Then dry up your sow. She'll be ready to breed again in 30 days. The extra litter and baby pigs saved in one farrowing will more than pay for your Pigsaver.

··· MAIL COUPON ···

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Dept. 25, Luverne, Minn.
Please send Pigsaver literature and prices.
We have_____sows. Farrow_____times a year.
Name_____
Address_____
City_____State_____

POULTRY FEED PROCESSING *(continued)*

and its unloading auger is driven by the PTO.

Buying oats, milo and corn from a nearby grain elevator, the Dickersons purchase concentrate from the same company which previously supplied them with complete rations.

Excluding medication, here is what they found the different rations cost them per ton during one month last winter:

$57.76 for Starter and Grower Mashes: 600 lbs. concentrate
700 lbs. milo
700 lbs. corn

$58.25 for Laying Mash:
500 lbs. concentrate
450 lbs. milo
1,050 lbs. corn

The Dickersons use a minimum of 28 to 30 tons of feed per week. Processing and delivering this amount into bulk bins at the different poultry houses requires the labor of one man for nearly two days. Output of the system, they say, is up to 2½ tons per hour.

Handling of the ingredients and the finished feed is entirely mechanized. Six-inch augers with 2 hp electric motors convey grain from the three storage bins to a 500-lb. automatic weigh station above the 10 hp hammermill. Similarly, 3-inch augers with ½ hp motors bring concentrate from storage to a second weigh station. The concentrate then is augered into the 1-ton batch mixer.

Scales at the weigh stations are set for the desired amount of an ingredient. As soon as this amount is received at the station, a micro-switch stops the conveyor motor.

Processed feed flows by gravity from the batch mixer into a 55-gallon drum that is used as a hopper. Another 6-inch auger with 2 hp motor moves the feed to the trailer.

Pole-Type Building

The feed processing equipment is housed in a 16 x 40-foot pole-type structure with concrete floor. Part of the building is used for an office. A 12-foot drive-through shed on one side of the building is used for machinery storage and as a sheltered area for loading feed.

To allow more complete unloading of the grain bins with augers, the Dickersons put in special sheet-metal floors that slope to the center. Two of the bins have rated capacity of 1100 bushels, the third one 1300 bushels.

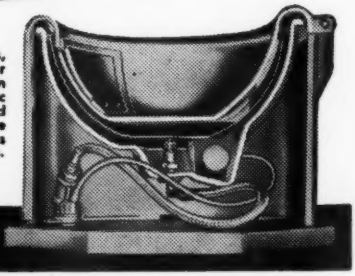
In addition to the money they save, the Dickersons like mixing their own rations because they are able to speed the delivery of medications to their birds. "If we observe that our hens need medicine, we can mix it into a ration immediately. When we were buying our feeds, it took at least four hours to get a medicated ration to the farm."

Designed to serve larger flocks in the future, the Dickersons are sure their feed processing system is going to pay for itself within a year—plus return them a handsome profit.

For All Livestock!
NELSON WATER BOWL

the ultimate in year 'round watering!

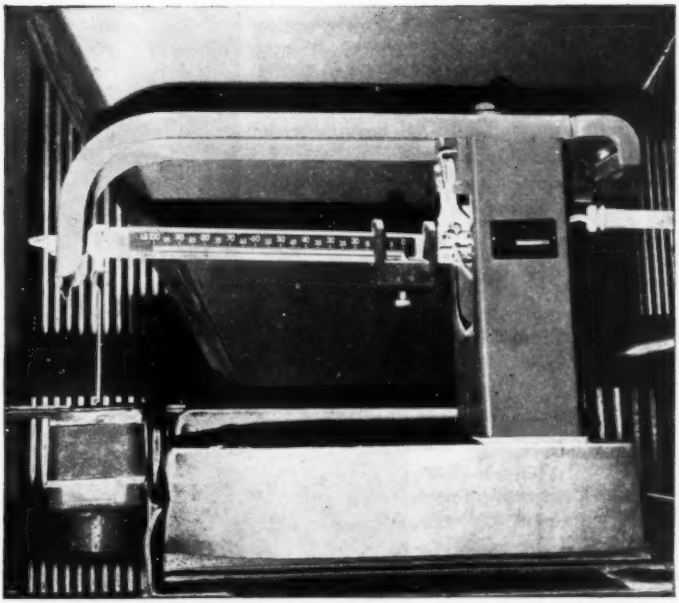
ONLY one moving part—no floats, levers, or springs to jam because of rust or corrosion. Provides clean, fresh water in summer; warms water in winter for 2c a day because thermostatically controlled electric heating element heats a mere bowlful instead of a tankful. Stainless steel and aluminum alloy construction. Completely automatic. Safe!



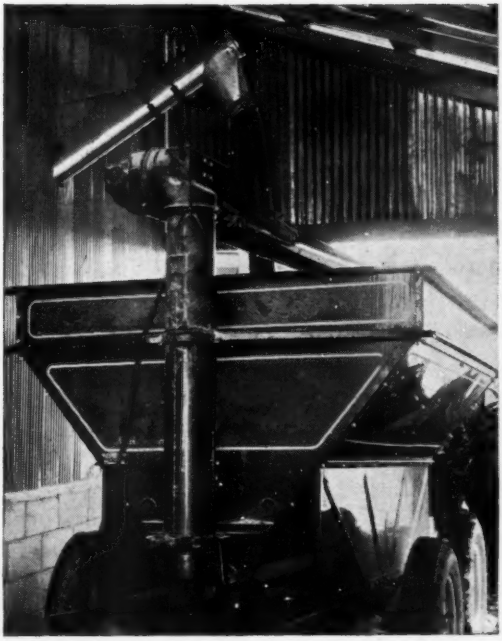
See your dealer or write

NELSON MFG. CO.
P. O. Box 616 Cedar Rapids, Ia.

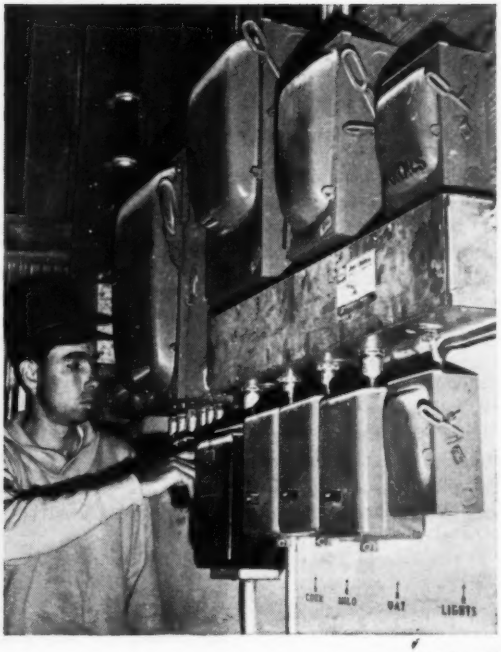
RIGHT: At automatic weigh stations, scales are set for desired amount of ingredient. As soon as correct amount is weighed, a micro-switch stops motor on the conveyor bringing the ingredient.

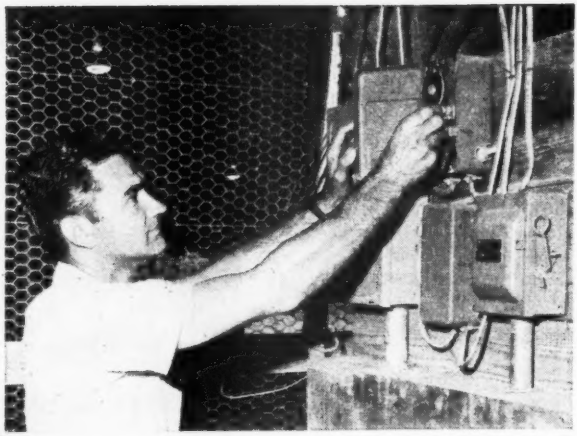


BELOW LEFT: Finished feed is delivered into a 3-ton bulk self-unloading trailer. Motor on 6-inch delivery auger is 2 hp.

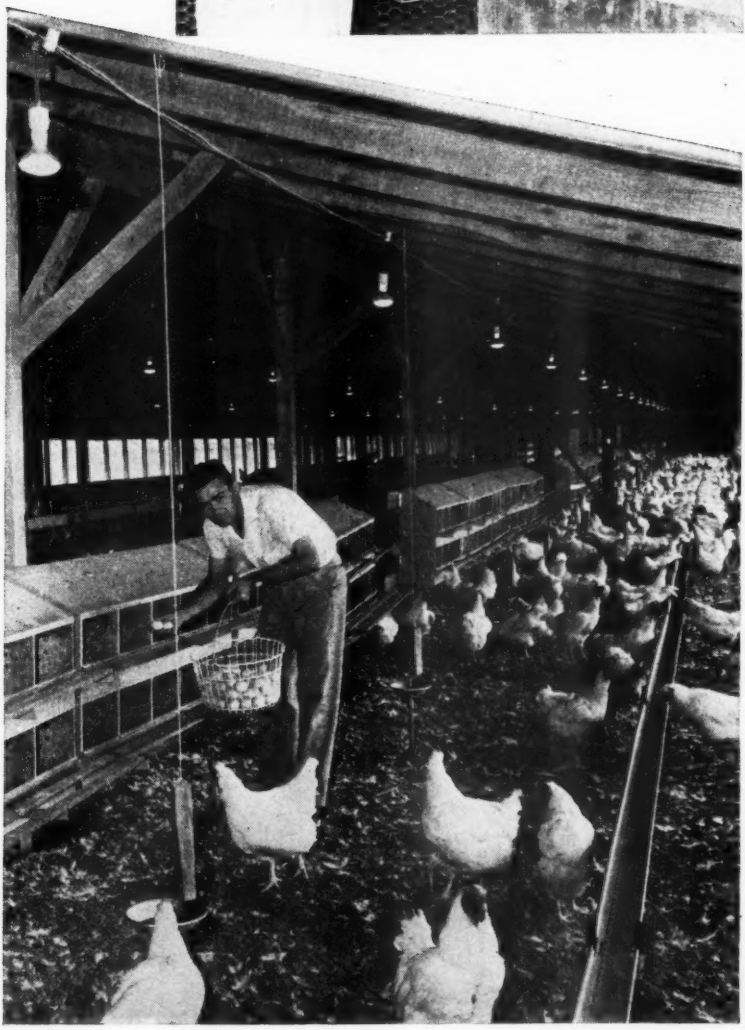


BELOW RIGHT: Dickersons hired an electrical contractor to make this installation which provides proper overload protection for wiring and motors. Note that separate switch for each motor is labeled.



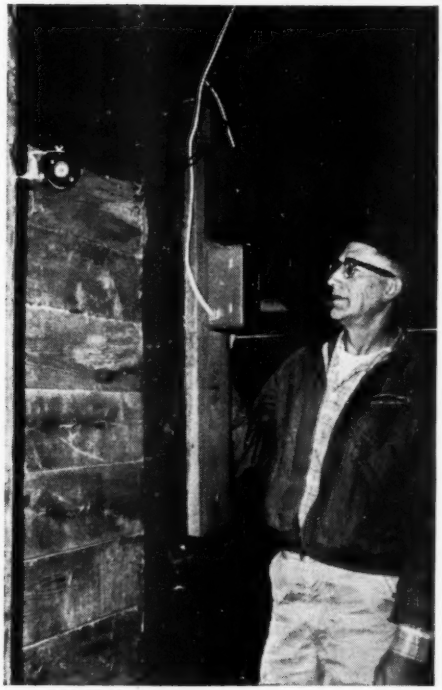


Time switch turns the lights on at 3:30 every morning in Mills' houses. He gives hungry birds 30 minutes to clean up feed left from previous day before mechanical feeders begin first cycle.



Lamps in Mills' 450 x 40-ft. laying house are 75-watt R-30 units with built-in reflector. They are 7½ feet above litter, spaced to allow approximately ½ watt per square foot of floor space.

Dual control for lighting uses time switch and photoelectric cell. Schuessler uses it to insure lighting during 16-hour day, yet avoid unnecessary use of lamps.



LIGHTING FOR LAYERS

Whatever program you use, it can help you get more eggs when you want them

Most poultrymen use artificial lighting to extend or stabilize the day length for laying flocks. Largely, they use lights in the morning hours to insure a minimum 14-hour day. Some gradually extend the day length as the flock grows older in the belief that this stimulates the hens and helps maintain a higher level of production.

In any event, lighting takes on added importance during the shorter days of winter. By using lights, a grower can predict with reasonable accuracy the production curve for any flock regardless of the time of year it comes into production. This has the obvious advantage of allowing more intelligent market planning.

Lighting Installation

While lighting is a common practice, the way of doing it varies widely. William Mills, of Cumming, Georgia, likes an installation which is designed to have ½ watt of lighting per square foot of floor space. In a 40 x 450-ft. structure which houses 6000 birds, he uses 114 lamps—each a 75-watt R-30 bulb which has a built-in reflector. The lamps are fixed 7½ feet above the litter.

What Mills likes about the R-30 bulbs is that he has no breakage and the built-in reflectors give him efficient use of the light. There are three rows of lights along the length of his house with lamps spaced about 11 feet apart. Porcelain sockets are used.

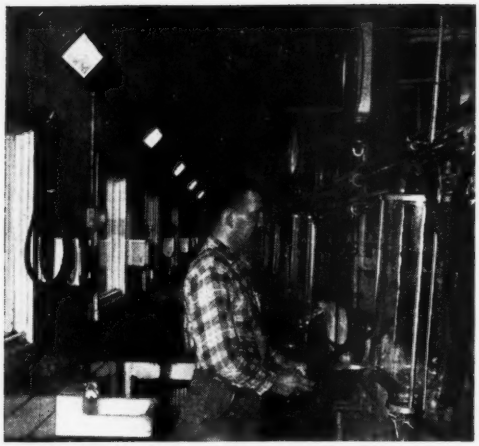
Lights come on in all of Mills' houses at 3:30 a.m. He gives the hungry birds 30 minutes to clean up feed left from the previous day. Automatic feeders begin their first cycle at 4 o'clock. Time switches control the lights and feeders.

Dual Control for Lights

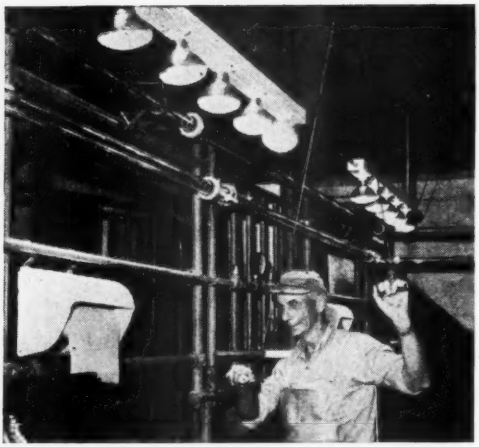
P. B. Schuessler of Alpine, Alabama, has a dual control system for lights in his caged laying houses. The first control is a time switch set to come on at 4 a.m. and go off at 8 p.m., insuring the 16-hour day that he desires. His second control is a photoelectric cell located inside the house. During the 16-hour interval, it operates to turn the lamps off or on as they are needed to maintain a minimum lighting level.

Advantages of the second control, Schuessler explains, are that he has an unvarying day length without the bother of resetting the time switch; the lamps operate only at the times they are needed, saving some electric energy; and the lamps operate during normal daylight hours if cloudy or overcast conditions cause the light level inside the house to drop below the desired minimum.

Added cost for the second control was about $35, Schuessler says.



Quartz-tube lamps behind and above each milking station in Broughton Hospital dairy direct rays on back and shoulders of operators.



Channels holding heat lamps are mounted above each milking station in Sharitz's parlor. Adjustable sockets allow direction of rays.

Infrared heat offers advantages for

Real Winter Comfort

Best way for a dairyman to be comfortable while milking in winter is to warm himself with infrared energy supplied by quartz-tube or conventional heat lamps. Proper location of these above each milking station will provide real comfort for the operator *while* he does his work.

"There is no need to try to heat a whole parlor when you are constantly opening and closing doors for the movement of cows," declares H. B. Sharitz of Wytheville, Virginia. "We tried to do it with a space heater, but it never warmed the room nor kept the pipes from freezing either."

A former physics instructor, Sharitz explains that infrared energy does not warm the air. Rather, it warms the objects which absorb its rays. In only a matter of seconds after lamps are turned on, the heat can be felt.

So, early last winter Sharitz and two sons, who are partners in the dairy, installed five 250-watt heat lamps above each milking station in their 3-stall walk-through parlor. The lamps are mounted in five-foot channels which have adjustable sockets so that individual lamps may be directed to deliver heat where it is desired. The prefabricated channels are wired for two circuits so that two lamps can be placed on one circuit and three on the other. Thus, the operator may choose 2, 3 or 5 lamps.

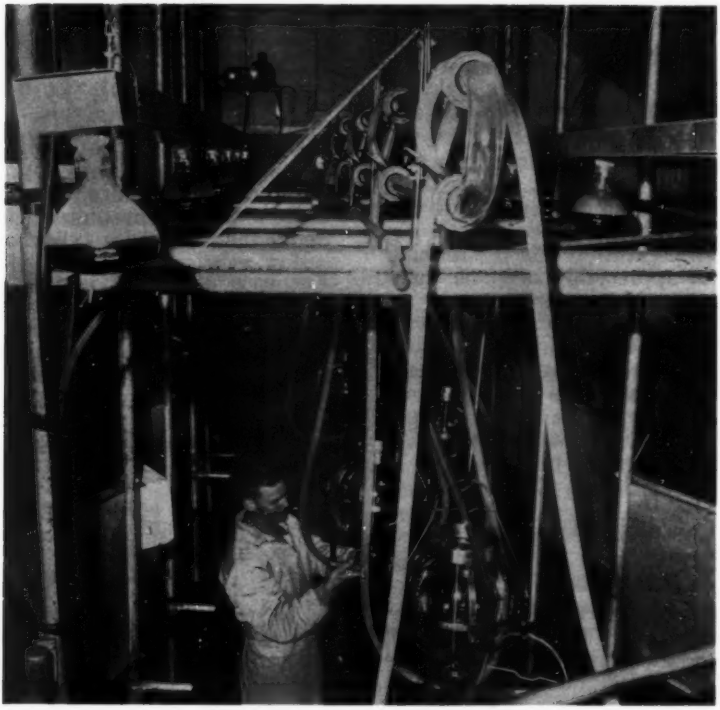
Complete with lamps, Sharitz says each channel cost him about $15. The channels also are available in three-foot lengths for three lamps. Upright water supply pipes are protected against freezing by a single 250-watt heat lamp placed directly above them.

In a 6-stall walk-through parlor at Broughton Hospital in Morganton, North Carolina, Max Cody is using 1600-watt quartz-tube lamps at each milking station. These are mounted along the wall about five feet behind and above the operators. Ideally, he believes the distance should be nearer three feet. But he says that on the coldest days of last winter his operators were very comfortable. For the most part, he noted, they worked with their sleeves rolled up.

One feature of the installation that Cody likes is the location of the lamps—above and behind the operator so that heat is directed on the back and shoulders. Normally operated on 230 volts, the lamps are installed so they can be switched to 115 volts, too. At the lower voltage, they are 800-watt units.

Cody is supervisor of the dairying operation at Broughton. Like Sharitz, he previously depended upon a space heater for comfort in the dairy parlor. But the repeated opening of two doors for the movement of cows made the space heater ineffective and led to its replacement. Both agree that infrared is the answer for human comfort in the milking parlor. □ □

Comfort IN THE MILKING PARLOR WITH INFRARED HEAT LAMPS



PREPARED BY VIRGINIA FARM AND HOME ELECTRIFICATION COUNCIL

Appalachian Power Company

WHY HEAT LAMPS?

HEAT LAMPS ARE BEST

Infrared heat lamps provided the best comfort in cold weather for milking parlor operators in tests conducted by the Agricultural Engineering Department of Michigan State University. Heat lamps were studied along with space heaters, heating panels, and hot air ducts connected to space heaters to supply heat at the most desirable location.

Infrared lamps in actual use in milking parlors in Virginia, Michigan and other states verify these results.

WHY COMFORT IS A PROBLEM

Walls of most milking parlors are of concrete blocks and are not insulated. Since these are good heat conductors, heat inside the parlor is lost rapidly to colder outside air. Raising the temperature inside the milking parlor does not appreciably raise the temperature of the inside wall surface.

Also opening doors to let cows in and out results in frequent air changes. Any heat produced by the animal is lost by these frequent air changes. The few hours per day the room is used do not warrant maintaining it at a comfortable temperature.

HOW HEAT LAMPS PROVIDE COMFORT

Heat radiates from a warm body to a cooler object. In an uninsulated milking parlor, an operator radiates his body heat to the cold walls.

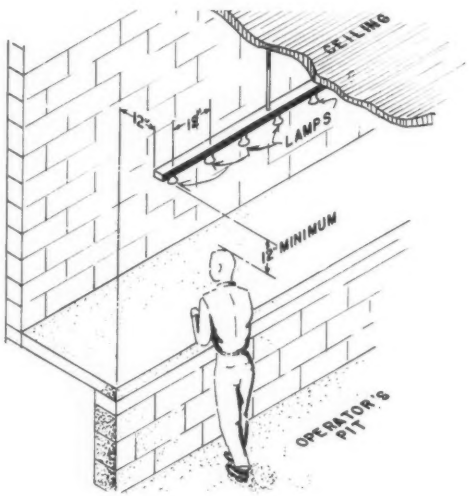
With an outside temperature of 0°F. and an air temperature of 30° within the milking parlor, the temperature of the inside surface of the concrete wall will be about 20°F. Increasing the inside air temperature to 50°F. will increase the inside surface temperature of the wall to only 34°. The operator, despite the 50° temperature in the room, will still radiate heat to the cold walls at a greater than normal rate; therefore, he will be cold.

Infrared lamps radiate a large part of their heat at wave lengths best absorbed by human tissue. Infrared radiation at these wave lengths passes through air without heating it. An installation of heat lamps in the milking parlor, so arranged that the operator receives radiation from the lamps as he works, will radiate heat to him faster than he loses it to the cold walls. In this situation, the operator will be comfortable despite the cold walls.

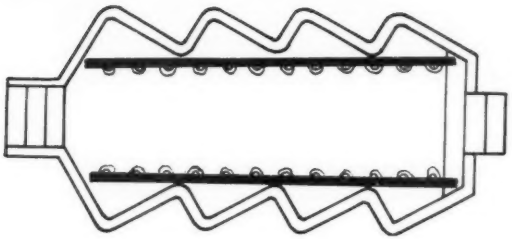
Installation Is Simple

Install one row of heat lamps for each row of stalls. Mount lamps approximately one foot out from the edge of the stall, with the bottom of the lamp bulbs at least 12 inches above the head of the tallest operator.

For ease of wiring and for safety, it is suggested that the lamps be mounted on a strip or a channel made for this purpose. This channel comes in various lengths so any desirable length is easily assembled.



Recommended general installation.



Heat lamp installation in herringbone milking parlor.

Suspend the channel from the ceiling with chains not more than five feet apart so that the height is easily adjusted and the unit can be raised for storage.

Use R-40 250-watt heat lamps and provide for 3 to 5 lamps per stall in the walk-through parlor and 1½ to 3 lamps per stall in the herringbone parlor depending on the climate.

You can use channels equipped with swivel sockets. They direct the heat where it is needed in either the in-line stalls or in the herringbone stalls.

Several electric circuits are required to control heat lamps. Do not connect more than six 250-watt lamps in a No. 14 wire circuit, and not more than nine in a No. 12 wire circuit.

Connecting the lamps in two or more circuits makes it possible to regulate the amount of heat according to the need. Ordinary toggle switches, conveniently located, control heat lamp circuits satisfactorily.

For best results, thermostatic control of your infrared heat lamps should be considered. The thermostat should be located out of drafts or "hot spots" to function properly. A minimum inside air temperature of 40°F. is suggested for wintertime operation to offset possible freezing problems on floors, in water lines, pipeline milkers, and to keep equipment such as mechanical door openers functioning properly.

Consult your power supplier regarding wiring and circuit planning.

TYPES OF LAMPS

The R-40 250-watt infrared heat lamp with medium base is readily available and is recommended for use in the milking parlor. Heat lamps with clear lenses should be used to obtain the benefit of light as well as heat. If the heat-resistant type of lamp is used, you will avoid breakage from water splashing on them. If the heat-resistant type bulb is not used, the lamps should be turned off and allowed to cool before the milking par.or is hosed down.

INSTALLATION COSTS ARE LOW

The installation cost including lamps, varies from $3 to $5 per linear foot of channel. This amounts to $15 to $25 for each stall of a walk-through or side-opening parlor. An installation for a herringbone parlor with four cows on a side will cost from $36 to $60 per row of stalls.

OPERATING COSTS ARE LOW

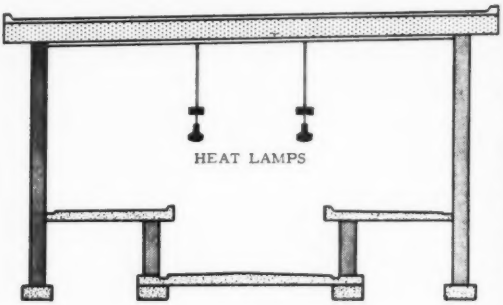
Operating costs are low since the heat lamps are used only during milking.

You can easily figure their cost of operation. Four 250-watt lamps will use 1 KWH of electricity for each hour of operation.

FURNISH EXCELLENT LIGHT

Users are highly pleased with the amount of light furnished by heat lamp systems when clear glass lamps are used. Most state regulations for milking parlor lighting specify a minimum of ten foot candles of light. Tests show that with 250-watt clear glass heat lamps mounted 54 inches above the stall floor, two of the five lamps will provide 90 foot candles of light at the cow's udder; 3 lamps will provide 120 to 130 foot candles and 5 lamps will provide more than 200 foot candles. All operators appreciate the excellent light which these installations provide.

When heat is no longer needed for the operator's comfort, some of the heat lamps can be replaced with regular lamps, and no regular light installation is required.



INFRARED HEATING THERMOSTATICALLY CONTROLLED

OTHER ADVANTAGES

OF INFRARED HEAT LAMPS

1. Heat is available as soon as the switch is closed.
2. By dividing the lamps among several circuits, the operator can vary the amount of heat according to his needs.
3. Heat is confined to the work area.
4. Open doors and drafts do not affect the heat.
5. The operator does not need bulky clothing.
6. Initial cost is low.
7. Maintenance cost is less.
8. Operating cost is low because the use is confined to milking hours.
9. Because the lamps provide excellent light, no other artificial illumination is needed.

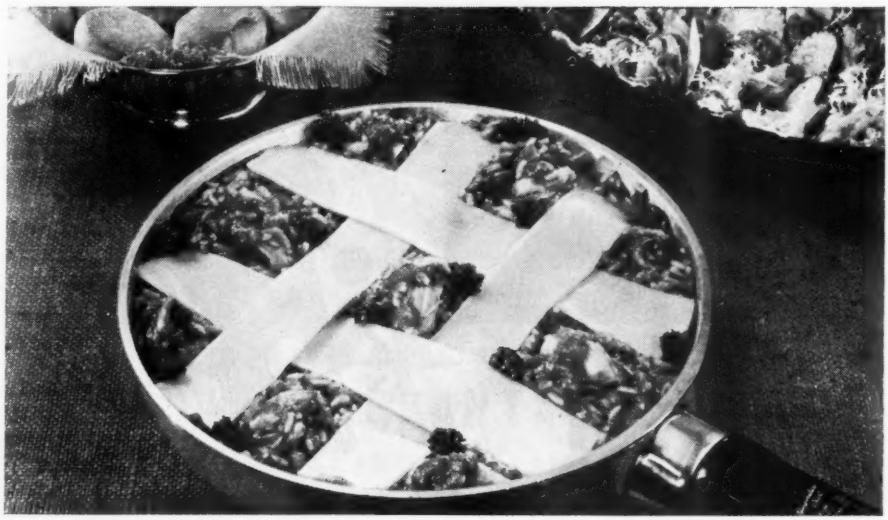
This leaflet is prepared by the Virginia Farm and Home Electrification Council, Seitz Hall, V. P. I., Blacksburg, Virginia, based on information from Extension Folder 286, Michigan State University.

Having A Trim-the-Tree Party?

It is traditional in some families to have friends and relatives help with the trimming of the tree on Christmas Eve. This leaves Christmas Day for going to church and family-only dinner. If you are planning such a party, we have some ideas for making it easier for you and more fun for all who take part. *(Please turn the page)*

THE FARM HOME

HAVING A TRIM-THE-TREE PARTY?



WHY not plan your festivities so the whole family can help out in Christmas Eve entertaining. You'll be able to share the joys of the season with them and not be tired out in the doing.

Your menu might include dishes in which most of the preparation has been done ahead of time. The electric skillet we picture here has a plug-in connection which may be used alternately on skillet or lid, and we think it could be a great step-saver. When the control is plugged into the lid, you have a broiling unit. This leaves the range oven free for cooking other last-minute items.

This portable appliance may be used in the dining room or any other area where guests are gathered and they'll love watching what's going on. It will cook a variety of tempting dishes—we give some suggestions you will want to consider—and you can make many adaptations of your own.

If guests are coming in at different times, plan something easy and quick so it can be cooked after they arrive. That All-American favorite—hamburgers—would be hearty and satisfying on a cold night. Here's how you do it:

Broiled Hamburgers

Up to 9 hamburger patties can be broiled at one time in this frypan. For best results, shape well-seasoned patties about 1" thick (frozen hamburger patties may be used, if desired). Set broiler heat control at 425° F. Preheat until broiler unit is red. Arrange patties on rack in skillet and broil for 12 to 18 minutes, depending upon whether rare or well done is requested. To give extra flavor, place a slice of cheese over each portion for last 2 or 3 minutes of cooking and broil until cheese is melted.

If buns are being served, quickly toast them in the frypan after hamburgers have been removed.

Coconut Date Balls

¾ cup granulated sugar
1 cup chopped California dates
2 eggs, well beaten
1 teaspoon vanilla extract
1 cup chopped walnuts
1 cup corn flakes
1 cup sugar-coated crisp rice (or 2 cups of either of the cereals)
1⅓ cups flaked, toasted coconut

Combine sugar, dates and eggs in electric frypan. Cook on medium heat, stirring constantly, until mixture pulls away from sides of pan (about 5 minutes). Remove from heat. Stir in vanilla

and walnuts, then carefully stir in cereal. Cool slightly. Moisten hands in cold water and shape mixture into small balls or mounds. Roll each in toasted coconut. Chill and store in refrigerator. Makes about 2 dozen.

How to toast coconut in skillet:

Spread coconut on a piece of aluminum foil in bottom of the frypan. Allow broiler unit to heat until it is red, about two minutes. Place broiler lid on skillet and watch coconut carefully through glass window in lid. Move coconut around with a fork to brown evenly. Takes only a few seconds, so give it your full attention.

If you want a meatless dish, this should please the most discriminating and it offers a change-of-pace flavor from other traditional *holiday fare:*

Spanish Skillet Supper

- 3 cups cooked rice
- 2 cups (2 8-oz. cans) meatless spaghetti sauce
- 1 cup commercial sour cream
- 1 cup (1 7-oz. can) flaked tuna fish
- 1½ teaspoons chili powder
- ¼ teaspoon garlic salt
- 1 package (8 ozs.) sharp cheese

Preheat skillet to 350° F. Combine rice, spaghetti sauce, sour cream, tuna fish, and seasonings in skillet. Cook, stirring occasionally, until mixture begins to boil (or until thoroughly heated). Reduce temperature to 210° F. Cut cheese slices lengthwise into strips. Arrange over mixture in skillet. Change plug-in control to lid unit and broil until cheese is melted. Serves 6 to 8.

Fruit cakes make welcome gifts. Wrap coffee can with strip of gift paper, cut to fit, and paste or tape around can. Wrap cake in transparent plastic film and replace in can. A bow, a sprig of Evergreen completes a beautiful gift.

CHRISTMAS BAKING

LOOKING FOR an unusual recipe? Try Italian Pepper Bread. The nutty, flavorful slices are sure to please. Our recipe makes two small loaves, which may be baked in two 1 lb. coffee cans, or one cake in a large loaf pan. Allow cake to age.

Italian Pepper Bread

Grated rind from 1 medium-sized orange
1 lb. mixed salted nuts
¼ lb. mixed chopped candied fruit
1 tblsp. candied ginger
1 cup seedless raisins
1 8-oz. pkg. dried figs, chopped
2 ozs. (½ pkg.) German sweet chocolate
½ cup flour
¾ teaspoon nutmeg
¾ teaspoon freshly ground black pepper
½ cup honey

Combine all ingredients; let stand 2 hrs. Press into two 1-lb. coffee cans which have been greased and floured. Bake 35 mins. at 325° F. With glass loaf pan, use 300° F.

Quick Fruit Cake

1 pkg. Date Bar mix
¾ cup hot water
3 eggs
1 tsp. cinnamon
¼ tsp. nutmeg
¼ tsp. allspice
¼ cup flour
¾ tsp. baking powder
1½ tsp. brandy extract
1 cup chopped nuts
1 cup whole candied cherries
1 cup white raisins

Heat oven to 325° F. Grease and flour two 1-lb. coffee cans. Combine date filling from Date Bar mix with hot water in large bowl. Add eggs, flour, baking powder, brandy extract, and spices, and blend well. Fold in nuts and fruit thoroughly. Pour into prepared cans. Bake about 1 hour 20 minutes, or until toothpick stuck in center comes out clean. Cool. Wrap well. Store in cool place.

Glaze after storing: *Bring ¼ cup light corn syrup and 2 tblsp. water to rolling boil. Cool; pour over fruit cake. Decorate top with bits of candied fruit dipped in corn syrup.*

Welsh Pork Cake

1 lb. ground pork sausage
1 lb. seedless raisins
1 lb. dates, chopped
1 cup nuts, chopped
4 cups brown sugar, firmly packed
3 cups boiling water
6 cups all-purpose flour, sifted
2 tblsp. cinnamon
1 tblsp. cloves
1 tblsp. soda

Combine sausage, raisins, dates, nuts, brown sugar and boiling water; mix thoroughly. Sift dry ingredients together; add to sausage mixture and blend well. Grease and line bottoms of three 9″ x 5″ x 3″ loaf pans with waxed paper; grease paper. Pour batter into pans and bake at 350° F. for 1½ hours. Frost with Cream Cheese Frosting. Decorate with red and green candied cherries.

Cream Cheese Frosting

2 3-oz. pkgs. cream cheese
2 tblsp. milk
4½ cups confectioners' frosting

GIFTS—pretty and practical

1

1. The ultimate in luxury gifts for your favorite youngster is a phonograph-desk in maple, with chair to match. Plays all record speeds and has built-in 45 RPM spindle adapter. Also available in model which sits on a maple cobbler-type bench.

2. Neatly styled and compact portable phonograph would please any teen-ager. It's contained in a scuff-proof vinyl-clad steel case and has recessed four-speed changer. When closed, it measures little more than a foot square and 5 inches high.

3. A handsome Christmas gift for the whole family is a new portable television set. This one has 19-inch screen and built-in antenna. Lightweight enough to move easily. Only about 13 inches deep, it has convenient carrying handle.

4. A lightweight, easy-to-store electric floor and rug cleaner, which is a handy and efficient supplement for your larger vacuum cleaner. Use it for quick pick-up floor cleaning after meals, or when the children have been untidy and guests are coming.

2

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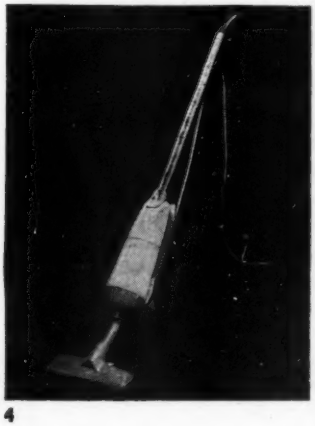

4

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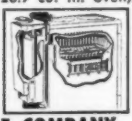
Monarch SINCE 1896 **36 INCH ELECTRIC COMBINATION**

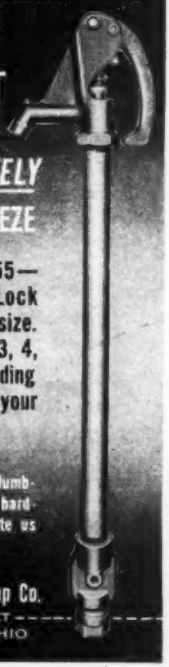
Monarch electric combination range offers new all 'round kitchen efficiency—it cooks, bakes, heats. Features include stylish mantel back, full complement of automatic controls, giant 6726.9 cu. in. oven, super speed surface unit electric section, and heater section for added warmth and cooking.

built-in coal-wood or oil heater section



MONARCH RANGE COMPANY
7011 LAKE ST., BEAVER DAM, WIS.

BUY THE HYDRANT THAT *DEFINITELY* WILL NOT FREEZE



Vari-Flo Model F-55—¾" size. Cam-Lock Model B-56—1" size. Bury Depth — 2, 3, 4, 5 or 6 ft., depending on frost level in your area.

See your well driller, plumbing, water systems, or hardware dealer — or write us direct!

The Columbiana Pump Co.
RAILROAD STREET
COLUMBIANA, OHIO

FASHIONS TO LIVE IN

4796—Pop-top apron is sew-easiest, so handy to slip on for a last-minute chore. Printed Pattern in Misses' Sizes Small 10-12; Medium 14-16; Large 18-20. Medium takes 1⅞ yards 35-inch fabric. Transfer. 35¢

9036—Pleated casual with pretty neckline interest. Printed Pattern in Misses' Sizes 12-20. Size 16 takes 4⅜ yards 35-inch fabric. 35¢

9068—Double-row of buttons accents the curvy midriff; smart collar, cuffs add fashion interest. Printed Pattern in Misses' Sizes 10-18. Size 16 takes 3 yards 45-inch. 35¢

9010—Slimming shirtwaist dress with buttoned-down, flip-over tie. Printed Pattern in Half Sizes 14½-24½. Size 16½ takes 3½ yards 39-inch fabric. 35¢

4947—Brief jacket and two skirts—one slim, one pleated. Printed Pattern in Jr. Sizes 9, 11, 13, 15, 17. Size 13 jacket 2⅛ yards 35-inch fabric; slim skirt 1⅞ yards. 35¢

4595—Smart skirts for the half-size figure, designed to fit without alterations. Printed Pattern for waist sizes 29, 31, 33, 35, 37½, 40 inches. Size 31 slim skirt, 1¼ yards 54-inch fabric. 35¢

4989—Step-in casual with gently flared skirt, pockets, pretty sleeve detail. Printed Pattern in Half Sizes 14½-24½. Size 16½ takes 3⅞ yards 39-inch fabric. 50¢

PATTERN 4989 is FIFTY CENTS. PATTERNS 4796, 9036, 9068, 9010, 4947, 4595 are THIRTY-FIVE CENTS each. Add 10¢ each for 1st-class mailing. Send 35¢ for new color Catalog of Printed Patterns. Cover illustration above.

Send orders (with coin) to:
ELECTRICITY ON THE FARM,
Pattern Department, P.O. Box 122,
Old Chelsea Station, New York 11, N. Y.

JUNIOR PARTNERS

4-H has a new use for an old game

Have You Played Elec-Tack-Toe?

Elec-tack-toe board is used by Culpeper 4-H Electric Club of which Charles Harlow is president and Jane Pate, vice president. Squares in the criss-cross are subject categories with a collection of questions for each subject in boxes under squares.

Virginia 4-H club members are playing a new version of an old game. They call it electric-tack-toe or elec-tack-toe. Played by individuals or by teams, it has proved to be a real attention-getter for audiences as well as an effective way for contestants and onlookers to learn more about electricity.

Andy Lambert, associate extension agricultural engineer at VPI, says that on occasion an entire club or audience may be divided into two teams so that everyone plays. Object, of course, is to win the game by lining up three spaces horizontally, vertically or diagonally.

Each of the nine squares in the criss-cross is a subject category; for example, "electric terms," "appliances," "extension cords," "fuses," "study lighting." Alternately, the "X" and "O" teams select a category and try to answer a question associated with it. When the answer is correct, a large "X" or "O" is slipped over the square, closing that category for the remainder of the game.

Questions are printed individually on 3 x 5 cards, with the correct answer and the authority for it on the reverse side. If a team fails to answer a question, the correct answer is read by the master of ceremonies, and that question is not repeated in the same or following games unless the contestants change.

The middle compartment is sometimes used for a "Pot Luck" category. Questions in it may go beyond the subjects which have been covered in instruction sessions. To add a bit of humor, Lambert suggests a buzzer to applaud one team for a correct answer and a toy tooting horn for the other. He warns that interest will begin to wane after two or three games, and suggests that three games be the limit for one meeting. □□

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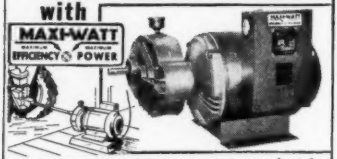
TRACTOR GENERATOR
with
MAXI-WATT
EFFICIENCY POWER



Provides dependable emergency electric power for lights, heat, refrigeration, milk cooler, and water system. New WINCO 12 KW PTO with MAXI-WATT gives Extra Power, Performance, and Value! Belted tractor model and complete line of tractor and engine generators from 1500 to 10,000 watt. For complete information Write Dept. EF-1161.

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Easy way to have fresh,
warm water for cattle all winter

Automatic Livestock Watering

Flushed, cleaned and ready for another winter is this automatic stock waterer which is used by E. C. Denton of Abingdon, Virginia, to serve 65 dairy animals. Mounted on a frame of 2 x 4's at the end of a feed bunk, it has a 500-watt heating element that is set to come on any time water temperature drops below 45°. His cows, says Denton, ignore the old watering tank to drink from this automatic unit which provides a constant supply of fresh, warm water in coldest weather, as well as providing fresher, cooler water in summer. It serves four animals at once, assures the kind of water supply to help keep milk production up. □□

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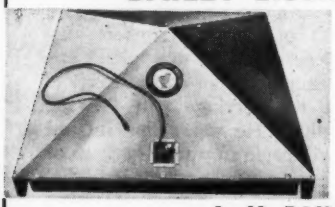

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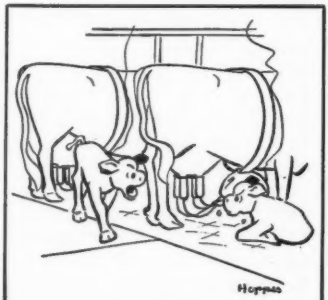


"YOU TOO?"

Research Notes

By J. P. SCHAENZER

Hop samples dried at 110-115° were judged superior to those dried at higher temperatures. 60 cfm per sq. ft. seems the highest practical air volume for hops 34 in. deep.—UNIV. OF CALIFORNIA, S. M. HENDERSON

Manual manure handling took an average of 1.38 man-hours per ton, while only 0.14 man-hours per ton were required when the work was mechanized.—UNIV. OF MASSACHUSETTS, R. W. KLEIS

The annual cost of operating pipeline milking systems in milking parlors on 94 N. Y. dairy farms was $11 per cow for smaller than 40-cow herds and $6 for herds of 60 and more.—CORNELL UNIV., B. F. STANTON

The total solar heat gain through clean, insulated-glass, southern-exposure windows in central Pennsylvania is about 15,000 Btu per sq. ft. of window area per month.—PENNSYLVANIA STATE UNIV., H. S. BARTLETT

Tomatoes were grown in plots having minimum soil moisture levels of 20 to 80%. The highest moisture soil produced 44 tons per acre, and the lowest, 20 tons.—MICHIGAN STATE UNIV.

Steers grazed on irrigated oats sold for 75¢ more per Cwt. than steers on non-irrigated oats, and made a $5.18 larger return above cost per acre.—MISSISSIPPI STATE COLLEGE

Both milkroom and milking parlor will be ventilated sufficiently if the fans provide 6 air changes per hour in the winter and 12 in summer.—UNIV. OF WISCONSIN

A mechanical cabbage harvester cut labor about half when compared with hand harvesting and caused less damage to the heads.—UNIV. OF FLORIDA, E. S. HOLMES AND L. H. HALSEY

Three "ready-to-serve" meals for a family of 4 cost $6.70. Prepared at home, they cost only $4.50, but take 4 hours more work by the homemaker. —USDA

It took 1.3 hours of manual labor to feed baled hay once a d day to 30 loose-housed dairy cows, but only 2.8 hours to feed 90 cows.—UNIV. OF MINNESOTA

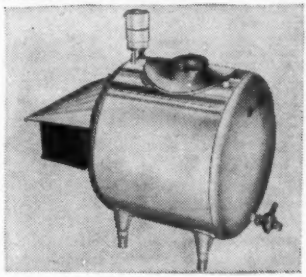
The average live weight of broilers marketed was 3.1 lbs. in 1955 and 3.5 lbs. in 1958.—UNIV. OF DELAWARE

Broilers started under 24 hours of bright light and gradually reduced to a dim light by market age grow fast and are quieter than broilers grown under 12 to 41 hours of bright light. Under dim light, each broiler needs only ⅔ sq. ft. of floor space, but with bright light a broiler does best if given 1 sq. ft.—AGRIC. EXPERIMENT STATION, AUBURN, ALABAMA

NEW *COMPACT* BULK MILK TANK COSTS LESS THAN CAN EQUIPMENT

For Diversified Farmers With Small Dairy Herds

DIRECT FACTORY PRICES



Now the price barrier is broken on farm bulk milk tanks — for the diversified farmer with a small herd. The new, small DUNCAN-COMPACT BULK MILK COOLER — made by makers of the famous ZERO Tank — gives you the labor-saving, time-saving, higher-milk-quality advantages of bulk operation. Enables you to *make the milk profit you want*, but can't get with a profit-eating can operation. Yet this DUNCAN-COMPACT *costs less than can equipment!*

SIZES START AS SMALL AS 100 GALLONS. Available with 3-A symbol. Vacuum model for present cow-to-can producers. Only 36 inches wide. Easy to install. Waterproof Urethane plastic foam insulation. Many other profit-making features.

DIRECT FACTORY PRICES AND FINANCE PLAN make it easy to own. Make payments out of increased milk profit. Write for FREE full information, prices, sizes, capacities, details of Finance Plan — today!

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®SUNBEAM, STEWART, CLIPMASTER

No More Stumbling in Dark with 'Central' Light Controls

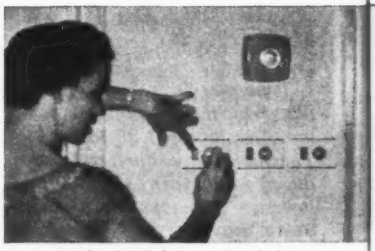
"Lights on" for nighttime outdoor living on the Garland lawn.

When Mr. and Mrs. Truman Garland built their new farm home near Burkburnett, Texas, they wanted—and got—the usual "central" electric conveniences: central heating and air conditioning and a central farm service meter pole, with a 200-ampere service panel. From it, all the wiring to the residence and electric pump is underground, out of sight.

But the Garlands added another central feature to take the inconvenience out of nighttime. From a corner of the kitchen, near the entry hall and bedrooms, the Garlands can turn on or off any light—or combination of lights—inside or outside the house. It's made possible with a low-voltage, remote-control switching system. (See "Flip Switches by Remote Control," June issue.)

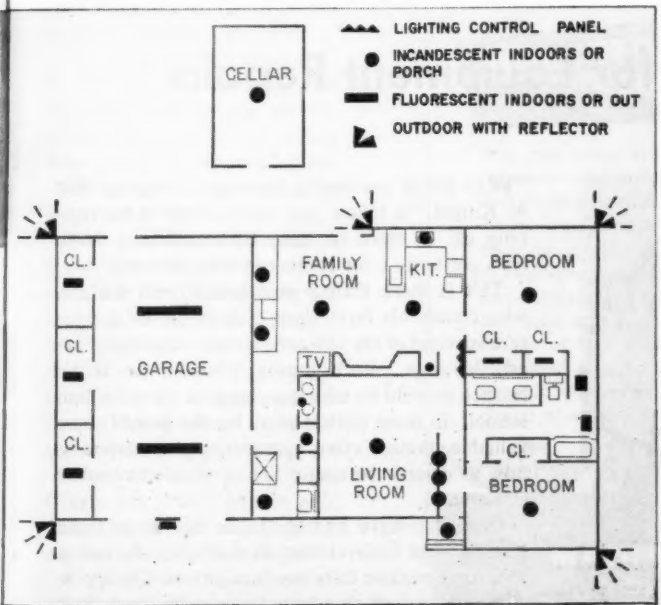
Each lighting fixture inside the house also has one or two finger-tip switches within the room, of course. So do most of the lights outside the house, with switches at the outside door nearest them. But if a light has been forgotten in a room at the other end of the house, the Garlands can turn it off from the kitchen.

Biggest advantage, however, is remote control of the battery of outside lights around the Garland house and farmstead. With all the lights on, there's never a dark spot within 50 yards of the dwelling. Twelve light fixtures—most of them with reflector hoods—are arranged under the eaves of the house to flood the yard and farmstead in every direction. Any of them can be turned on and off either from the nearest outside door or from the central control panel. So can the light for the cellar, just outside the house, and the light for the implement barn and beef cattle pens, more than 200 yards away. The Garlands had had past experience with stumbling around in the dark trying to find the switch for an outdoor light. Now, wherever they might want to go on the farmstead, the Garlands have bright light all the way, before they start. □□



Betty Garland "dials" another lighting combination at remote-control panel.

▼ Diagram of remote-control, low-voltage wiring system which permits turning off and on any light about farmstead from convenient location in kitchen.



Enjoy crystal-clear water

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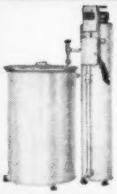

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NOW You Can RENT or LEASE A Winpower Tractor-Driven Generator. Cheaper Than Insurance; Fully Tax-Deductible.

Protect your farm and family against power failure NOW with a dependable Winpower Tractor-Driven Generator, PTO or belt-driven. Supplies FULL power for lights, radio, tv, motors, heating system, water pump, milker, brooder, milk cooler, automatic feeders, etc. Lowest in cost. 20 year warranty.

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Every tool has its place in Knight's farm shop. Portable saw is used for construction and repair of buildings.

One way to keep your dollars at home... Have

A Farm Shop for Equipment Repairs

Grinder driven by 1 hp motor has variety of uses. Note that Knight observes safety rule, uses goggles.

"Way things are on the farm now," reasons Will A. Knight, "a fellow just can't afford to be running off to town to have his machinery fixed. He's got to do a lot of the repairing himself."

This is more than a preachment with Knight, who counts his farm shop as essential to the future survival of his 150-acre family farm near Forest, Virginia. Back during World War II he learned to weld by taking a course at New London school. In those critical years he also gained some valuable, though often aggravating, experience in how to extend the useful life of worn or obsolete equipment.

Once you have had to "make do" as in those days, Knight believes that, ever afterwards, one is able to appreciate fully new equipment. He appreciates his enough that from the start he treats it in

a fashion to get the maximum life and service from it.

Tanned and lean, he looks the part of a cattleman—which he is. His acres are in hay, grain and pasture crops for a beef herd that numbers 40 Hereford cows.

After a season of use, he brings his grain drill, fertilizer spreader, hay baler and similar equipment into the shop for cleaning, repair and greasing before he moves them to storage. To prevent rusting, he applies a coating of kerosene and fuel oil (or motor oil).

Possibly the most often-used piece of equipment in Knight's shop is an electric welder. There is no doubt, he says, that it is the biggest money and time saver because he can make so many repairs with it without dismantling equipment. For example, when he broke the main frame of his hay conditioner, he was able to weld it and get back to the field within 30 minutes. As is so often the case in haying and combining, he could ill afford to lose a day from the field.

He bought a hay conditioner that had been junked, and salvaged parts to use for repairing his own. "Saves buying new parts," he observed. "Besides, there was a lot of good iron in it."

The good iron will come in handy later. Some of it may be used for "half-soling" mower shoes, a little trick that Knight has practiced for years to stretch the life of his equipment, even as he hard-welds a tip on horse shoes to make them wear longer.

Some of the jobs are large. Others are small, almost piddling. But Knight uses his shop almost every day, keeping dollars on the farm that otherwise would be paid out to others.

SODDEN THOUGHT: There SEEMS to be PLENTY of money in this country but EVERYONE owes it to EVERYONE else. . . . SNICKERSNORT DEPT.: Dairy farmer (questioning prospective hired man): "Do you have any bad habits—SMOKE, DRINK, EAT MARGARINE?" . . . A WISE teacher sent THIS note home at the start of the term—"IF you PROMISE not to believe everything your child says happens at school—I'LL promise NOT to believe everything HE SAYS happens at home." . . . SNICKERSCOOP - OF - THE - MONTH: Wife, to frowning husband holding cancelled checks in his hand: "You MEAN the bank SAVES all the checks I write and SENDS them to you? What a PERFECTLY SNEAKY thing to do!" . . . FLIP QUIP: IF you know JUST what to do with your NEIGHBOR'S bank roll, you QUALIFY as a POLITICAL ECONOMIST. . . . Have you noticed THIS about television—the MORE unsuitable the program, the QUIETER it keeps the children. . . . EVERSTOPTOTHINK? — MIDDLE AGE is THAT time of life when our TRIPPING becomes LESS light and MORE fantastic. . . . A police HELICOPTER is the WHIRLYBIRD that catches the worm. . . . A MONOCLE is a LEERING aid. . . . And—A CASSEROLE is a utensil for DISPOSING of LEFTOVER LEFTOVERS. . . . From NOSMO K I N G: "W H E T H E R you MARRY or REMAIN SINGLE, you will live to REGRET it." . . . JOKELORE DEPT.: ALL animals are STRICTLY dry, They sinless live and quickly die; But SINFUL, GINFUL, RUM-SOAKED men SURVIVE for THREE-SCORE YEARS and TEN. . . . AFTER-DINNER SPEAKER: one who BLOWS in, blows OFF, and blows OUT. . . . PARTING THOUGHT: IF you CAN'T lick 'em and they WON'T let you JOIN 'em, WHAT THEN? . . . Your pun-peddler —DUFFY.

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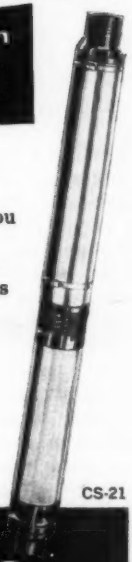
With a RED JACKET Custom "Submerga" Pump

Buy your water system pump on capacity and pressure – not horsepower. You will find the Red Jacket Custom "Submerga" Pump gives you "more water for less money." Owners find they can get the water they need from smaller horsepower pumps to gain both big first savings and continued savings in electricity. Combine this high capacity with the proven dependability of Red Jacket "Submerga" Pumps and they are the biggest water system bargain you can get. Ask your Red Jacket dealer what size you need.

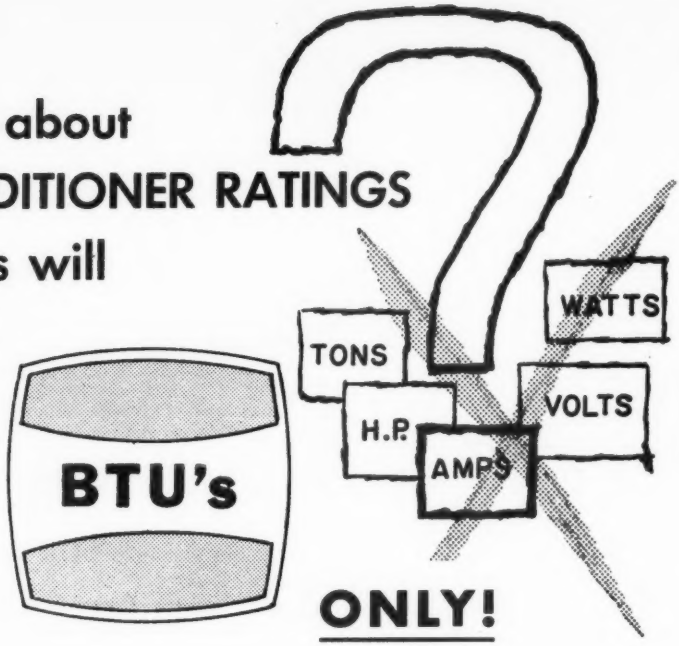


RED JACKET WATER SERVICE PRODUCTS

CS-21

RED JACKET MANUFACTURING CO.
Davenport, Iowa

Confused about AIR CONDITIONER RATINGS 1962 units will be rated in



When you shop for a 1962 room air conditioner you will find a new standardized system of indicating cooling capacity. No longer will terms like horsepower, ton, wattage, or amperage be used to designate cooling capacity. Instead, the unit will be rated in BTU's per hour. A BTU is a measurement of actual heat transfer. The purpose of the air conditioner is to transfer heat—move heat from a room or other enclosed area to the outdoors. Therefore, it is most logical to rate the air conditioner according to its actual heat transferring capacity.

The need for this standardization was brought about by all the confusion created during the last few years in air conditioner sales appeals. Many manufacturers used horsepower as an indication of size. However, tests revealed that some 1 hp units could transfer only about 60% as much heat as other 1 hp units. The rating gave no consideration to design or efficiency.

The new rating standardization program will be administered by the National Electrical Manufacturers Association (NEMA). The National Better Business Bureau will cooperate with NEMA in making the program effective. Each new model of air conditioner introduced by a manufacturer will be tested for BTU performance and rated accordingly.

Both through-the-wall and free standing units must undergo tests. The model will be certified only after satisfactorily passing the test. The seal of certification appearing on the unit (see illustration at lower right) is assurance to the customer that the model meets NEMA specifications for the BTU rating appearing on the nameplate. It is a rating in which you can have 100% confidence. Random samples will be tested periodically and if capacity is not up to rated par, the license for NEMA standardization will be withdrawn from the manufacturer until he redesigns or adjusts the model to meet rated capacity.

This new rating standardization has been developed primarily to protect the consumer from misrepresentation of size. He can also use it as a shopping tool. He should make sure the conditioner's BTU capacity correctly matches the BTU heat loss from the area he desires to cool. Then he must go further and choose among other factors (motor size, box size or style, decorations, controls, etc.) before actually selecting the particular unit for his individual needs. Quality of the conditioner should not be equated with BTU rating alone. □ □

No cord...
No plug...
It's an

Electric Drill You Can Use Anywhere!

Any outdoor drilling job, such as installing life-saving auto seat belts, can be done much more conveniently with cordless ¼-inch drill.

The newest look in portable power tools is a drill that is *totally portable*—a feature which makes it especially useful on the farm.

Brand-new on the market, the ¼-inch electric drill is "cordless"—a feature that "unchains" the user from the usual electric outlet. The unit is powered by a rechargeable nickel-cadmium dry-cell battery installed in the heavy-duty plastic handle. According to the manufacturer, the drill will bore 300 ⅛-inch, 200 ¼-inch, or 75 ½-inch holes in ¾-inch fir before the battery needs recharging. The 4-cell battery can be recharged, using a special charger sold either with the drill or separately, a minimum of 400 times, giving the cells a minimum life of three years before replacement.

The 4-lb. drill is completely shockproof, since it works on a voltage about 1/20th that of normal house current, making it safe to use on or near water or damp ground.

Although excessive stalling will prematurely discharge the batteries, it cannot overload or damage the motor. This is an important point, since the medium-duty drill may tend to stall down somewhat when bits larger than ¼-inch are used in heavy lumber. However, the drill seemed to have no trouble boring ¼-inch holes in the steel floor of an automobile during a safety-belt installation job.

The charger is designed especially for use with the drill. One cord from the charger is plugged into a 115-volt outlet, another is plugged directly into a small receptacle in the drill handle. The charger has two settings—"normal," which imparts a full charge in 16 hours but may be left on indefinitely, or a "special" fast charge which takes 5 hours but may damage batteries if left on longer.

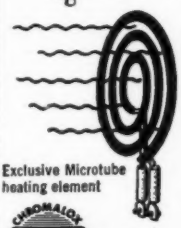
This U.S.-made drill is probably the forerunner of an entire family of totally-portable "cordless" electric power tools which could very likely have quite a bit of use on the farm, where the more portable a tool is, the more useful it becomes.

eliminate chills, drafts wherever you go with

CHROMALOX

PORTABLE HEATERS

Replace chills and drafts with fast, silent, clean warmth wherever you go on the farm with sturdy, dependable Chromalox portable heaters. Seven different air-flow models available, each built with the rugged, all-metal, enclosed Microtube heating element—the safe, long-lived unit that provides years of economical, trouble-free service. **Learn the Facts**—write now for bulletin M70101 and name of your distributor.



Exclusive Microtube heating element

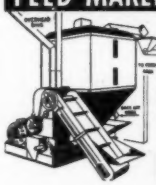
WM-14

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7580 THOMAS BOULEVARD • PITTSBURGH 8, PA.

FARM BETTER ELECTRICALLY

Complete **FARM FEED MAKER**

3 in 1 MILL-MIXER and SELF UNLOADING STORAGE



The Handy, Easy, Profitable Way to Make Your Own "DUST-FREE" Fresh Mixed Rolled Feeds

New ROL-N-MIX

Now one low cost, compact unit provides all the basic equipment needed to make automatic feed making and feeding a reality on the farm. A size for every feeder. Also available in portable, P.T.O. models.

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PEERLESS EQUIPMENT CO., INC.
Dept. 616, Joplin, Missouri

Brooders used for three years by Dickerson to raise replacements for laying flock have easy-to-set dial temperature control which is reset weekly as chicks grow older.

"Nothing Like 'Em"

Electric Hover Brooders

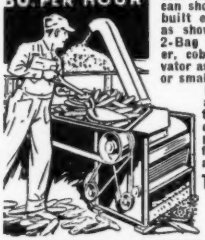
Z. W. DICKERSON grows his own replacements for a laying flock that exceeds 30,000 hens. The last three years he has used electric hovers for brooding. "Nothing like them," he declares.

Last winter the Anderson, South Carolina farmer started 6000 chicks in one brood. Next morning the outside temperature dipped to 12°. A day later it was down to 10°. By actual count, he says he lost 18 chicks in the first 10 days. After four weeks, he had lost 30.

"We have found that when we set the control to give a temperature of 95° underneath the hover, that's what we have," explains Dickerson. He starts chicks at 95° and drops the temperature back about 5° per week. A dial control is used to change the temperature setting on his brooders. The electric units require no servicing between broods.

Electric hover brooders are available from several manufacturers in 500, 750 or 1000 chick sizes. Broiler growers who use them year-round claim average brooding costs of .2 to .3 KWHr per chick. With each brooder, at least two manufacturers also give a one-year insurance policy against losses that might result from any off-farm interruption in electric service. Growers may renew the policies if they choose. □□

SHELL CORN THIS FAST
EASY WAY
135 TO 180 BU. PER HOUR



You've never seen anything to beat BELL'S NEW LOW-COST BALL-BEARING SHELLER. Shells corn about as fast as you can shovel it into the low-built easy feeding hopper, as shown. Equipped with 2-Bag Sacker, wagon loader, cob shaker or cob elevator as desired. Feed large or small, hard or soft ears. Pays for itself in time and labor saved. Electric motor, gasoline engine or tractor power. Write today for illustrated Folder and dealer's name.

The C. S. BELL CO.
Manufacturers
Dept. E.
HILLSBORO, O.

get details on the...
WRITE FOR FREE PICTURES & PLANS
Silo-Matic®
UNLOADER and HOW TO FEED MECHANICALLY
SAVE TIME & LABOR MAKE MONEY
Dept. E
Van Dusen & Co., Inc., Wayzata, Minn.

Advertisers

in this issue . . .

Southeast Edition

Whenever you need further information about electrical equipment and appliances, you can depend upon the Manufacturers who are advertising in this magazine. We have indexed here for your convenience in alphabetical order the Manufacturers whose advertisements appear in this issue.

When writing to these Manufacturers be sure to mention you saw their advertising in ELECTRICITY ON THE FARM Magazine.

L. H. Bailey & Sons 26
The C. S. Bell Co. 34
Chore-Time Equipment, Inc. 29
Columbiana Pump Co. 23
Decatur Pump Co. 10
Duncan Products, Inc. 27
Easy-Heat, Inc. 13
Electromode Div., Comm'l Controls Corp. 11
General Electric Co. .....Inside Back Cover
KitchenAid Home Dishwasher Div., The Hobart Mfg. Co. .....Inside Front Cover
Monarch Range Co. 23
Nelson Mfg. Co. 14
Norwood Products Co. 14
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Peerless Equipment Co., Inc. 33
Red Jacket Mfg. Co. 31
Sunbeam Corp. 27
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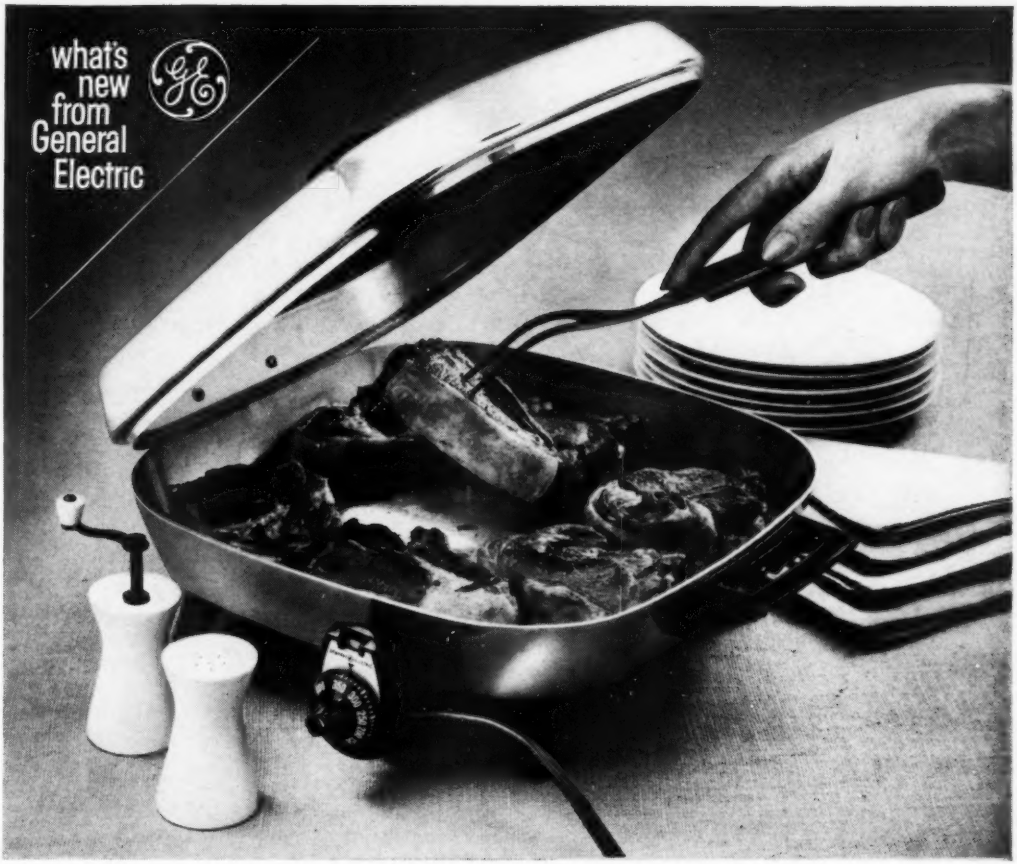
Edwin L. Wiegand Co. 33
Wincharger Corp. 26
Winpower 29

If you are unable to get information about the particular equipment you require from our advertisers as listed above, our Reader Service Department will be glad to help you. As a reader of this magazine you are entitled to this information service free of cost.



A SKILLET WITH ADJUSTABLE, REMOVABLE LID!

Tuck the lid into either handle—part way up to help control spatter, all the way up for serving. And fry, stew or bake with no watching, no burning! The extra-dependable thermostat is removable, too—so the whole skillet dunks for easy cleaning! Start cooking and *serving* those hearty farm meals in General Electric's new Buffet Skillet. You'll find it at your dealer's. General Electric Company, Portable Appliance Department, Bridgeport 2, Conn.

Progress Is Our Most Important Product

GENERAL ELECTRIC

DR H N YOUNG - HEAD
VA AGRI EXPERIMENT STA
BLACKSBURG VA
259-SC

ENJOY COMFORT in the milking parlor

How?—with INFRARED HEAT LAMPS. Yes, install infrared heat lamps now and enjoy complete working comfort in that hard-to-heat milking parlor this winter.

Infrared heat lamps have been proven best for heating milking parlors. Why? Because infrared heat lamps heat *you* not the air . . . or the cows. That means there's no worry about heat escaping when the cows are brought in . . . no expensive heat loss through uninsulated walls. The heat can be directed just where needed, too, and the lamps cost surprisingly little to install, maintain and operate.

For full facts on infrared heating for your particular needs, call our nearest office right away—before wintry winds arrive.

FARM BETTER ELECTRICALLY

Appalachian Power Company

We send you this magazine with the hope that it will show you new ways to enjoy the profits and pleasures of dependable, low-cost electricity.